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PART I.—ESSAYS, MONOGRAPHS, AND CASES.

A Lecture, Introductory to the Winter Course at the New York Medical College, for the Session of 1855–6. By HORACE GREEN, M.D., LL.D., &c., Professor Emeritus of the Theory and Practice of Medicine. (Published by request of the Class.)

MR. PRESIDENT: Since the inauguration of this Institution, I have had several opportunities, at the different gatherings of our classes, to appear before you as the orator of the occasion. What I have already done in this way should have sufficed for the present. But a few weeks ago, at a meeting of my obliging colleagues, this honor of giving the opening address of the present Session was again conferred upon me. Remembering, however, that those subjects which ordinarily go to compose *Introductory Lectures*, like the raw material out of which "Fourth of July Orations" are manufactured, had long since been exhausted, I most respectfully, and, as I thought, positively, declined the honor. But neither declinature nor demurrer, on my part, availed me anything; for, although duty unfulfilled had strong claims for this labor upon each of these delinquents, yet having determined individually to reject her

claims, they resolved collectively to impose the task upon another. Outnumbered after this manner, I thought to appeal to our Trustees, or to bring my case before the Censors of our College, but reflection often evinces wisdom, and it brought me to the conclusion, that the gathering together of our worthy Trustees, enough to form a *quorum*, would give me more labor than it would to write an introductory lecture; and, inasmuch as our excellent Censors had never hitherto reversed a single decision of the Faculty, I had no confidence they would do it in my own case; at least, I did not desire, on account of our graduating classes, to have a precedent of this kind established. I therefore assumed the task, with as good a grace as I was able; and, should I fail, in its performance, to meet your expectations, let your displeasure fall on those who "knew their duty and yet did it not."

After all, gentlemen of the class, one part of the duty which has been assigned me is certainly most agreeable—that of welcoming you to this Institution consecrated to Medical Science. Those of you who, as former members of our class, return to us again, we welcome as tried friends, even as members of our own family; and we pledge our continued and undiminished interest in whatever concerns the prospects and happiness of each and all of you. To those who come as strangers, and for the first time, to join our class, who, it may be, have left home, and friends, and familiar scenes, to find yourselves amid the solitudes of a great city, surrounded by strange sights and scenes, and yet stranger faces—to you we tender a cordial salutation. For you, we confess to a more than ordinary feeling of kindness and interest; for we remember—after more than a quarter of a century—the day, though it were but yesterday, when, after journeying many hundred miles from our father's house—not with locomotive speed, but with the stage-coach diligence of those days—we entered a distant town, and enrolled our name among the matriculants for a first course, in the old University of the city of Penn; and well do we remember the feelings of sadness, and of home-longings, which for a time oppressed us, and how gratefully we received the first manifestations of interest in our welfare that came from our kind preceptors.

To all of you, then, gentlemen, whether you come as old friends or new, from whatever portion of our wide and happy country, you come to us,—to all I am authorized to proffer a sincere and heartfelt welcome, and to pledge the exercise of our watchful regard over whatever concerns your present and future welfare. "*Accipe daque fidem!*"

It may possibly be recollected by some now present, that, in an address which I had the honor to deliver, a few years ago, on one of these public occasions, it was maintained that the "future progress of medicine in America" is certain and inevitable. That because of our peculiar national characteristics; because of our "commercial and eclectic character;" and particularly because of the freedom of our profession from "governmental restrictions," the medical art is destined to make unequalled advances in this country; and that the day is yet coming when we shall not only have returned an equivalent for all we have received from the professional savans of Europe, but shall, moreover, in our turn, take the lead in the progressive march of the Science of Medicine.

Brief as the period has been since the above prediction was uttered, yet, were it necessary, it could be shown by a reference to our progress in Operative Surgery, in Therapeutics, and in Practical Medicine, that the day of its fulfilment had already dawned. It is to prepare you, gentlemen, to act well your part in this great, this glorious work of benevolence—it is to enable you yet to contribute your share in the advancement of our noble profession, that you are gathered in this Institution; and whilst we urge you all "to give yourselves wholly to this work," we place at your disposal, not only the entire advantages connected with our school, but we proffer for your assistance all the aid we have in our power to bestow.

It is at the commencement of our intercourse, as pupils and instructors, that we desire to impress upon each and every one of you the paramount importance of obtaining a thorough medical education; for, in whatever estimation we may be held by the superficial and unreflecting portion of the world, still it remains true that with the members of the medical profession rest obligations, in connection with the causes of disease, with epidemic influences, and with sanitary regulations, of the

utmost weight and importance—obligations which you will be called upon to meet, and in the intelligent and faithful discharge of which are involved, not only the lives of individuals, but often immunity from wide-spread and wasting disease, and the consequent prosperity and happiness of entire communities and nations!

I have alluded to a dearth of topics—such, I mean, as we might infer would be sure to interest the individuals who ordinarily compose a mixed assembly. And yet there are many subjects which have an intimate relation with Medical Science, in the discussion of which the entire lay community have, or ought to have, an absorbing interest. You, gentlemen, have congregated in these Halls for an important, a noble purpose; but whilst it is for a specific object, it is also one with which is intimately connected the best interests of suffering humanity!

Who then in this assembly, whatever their age or condition, whatever their profession or their occupation, can be indifferent to those subjects which belong especially to the domain of Medicine—subjects "which not only concern personal feelings and social happiness, but which involve the well-being of society at large, and the intellectual as well as the physical character of individuals and nations."

I shall be pardoned, then, by this intelligent audience, I am sure, if I occupy the remainder of the time allotted to me this evening in noticing a few of the important topics which are to engage our attention in the course of medical instruction on which we are about to enter.

In Grecian Mythology, from the same source came light and health. Phæbus Apollo, the same Olympian divinity who diffused the one, dispensed the other. At the present day, wherever Medicine has made its greatest attainments, there its beams of truth have been the most universally diffused. Seeking in its glorious aim, not only to relieve the pains of suffering humanity, and ultimately to eradicate disease, it has also offered to every one a participation in the highest good, and has sought to shed its light, and to bestow its truths as the common patrimony of all mankind. And hence we claim this for our art, that in whatever country Medicine has made the

greatest progress, whether it has been in Egypt, in Ancient Greece, or amid more modern nations, there science and civilization have also reached their highest culmination.

But here I may be met by the pretentious assertion, one which is frequently made by the arrogant and unreflecting, that we cannot claim for Medicine the attributes of a true science. It is not my intention to occupy your time in establishing the claims of Medicine to be regarded as a science, by arraying the mass of evidence which may be gathered from our minute, thorough, and comprehensive knowledge of *Anatomy*, *Physiology*, and *Pathology*, although by reason of these our attainments, we may always demand for Legitimate Medicine a place among the inductive sciences, because Medicine is a science founded on certain well-established and immutable truths, which elementary branches are of themselves distinct sciences. Not by an exhibition of these truths, I repeat, shall I seek to sustain our claims, but rather by pointing out a few of the discoveries which Medicine has made, with regard to the *causes of disease; the mode in which these causes act in producing disease; and the methods of their removal or prevention.* In this way shall I be able, I trust, not only to communicate information that may be valuable to all, but to prove, inferentially at least, that to Medicine belong not only the characteristics of an exact science, but also the attributes and dignity of a divine art.

By a reference to the great mass of medical facts already collected, which relate to the origin, cause, and modes of propagation of disease, it will be found that among these causes are some which are especially efficient and wide-spread in their influence. Among them are the *specific poisons*, which engender those maladies ordinarily denominated *contagious* diseases, and *epidemic influences*, or what Sydenham designated the general epidemic constitution of the air. There exist various local causes, some constantly present, others occurring from time to time, which unite in producing and diffusing disease; but a review of the whole of this subject would far exceed the limits of a brief address, and is therefore inadmissable under the present circumstances. In considering, however, these two important agents of disease to which I have

just alluded, facts with regard to some of the laws of contagion, and of sanitary reform or measures, will be noticed, a knowledge of which is of vast importance to both professional and lay communities.

In pursuing this investigation, I shall aim to establish the following propositions:

1st. That all contagious diseases have their origin in a specific poison, which poison is formed in the living fluids of the body.

2d. That endemic diseases arise principally from local causes—causes over which man ordinarily has control; that they are not necessarily contagious, but, under certain circumstances, are capable of becoming intensely contagious.

3d. That epidemics arise from some general atmospheric or telluric cause, or from causes emanating from both these sources; that they are governed by some unknown laws, and are never contagious; and, finally, by establishing these propositions, I shall seek to prove that the employment and maintenance of all sanitary cordons and quarantine regulations (except so far as regards the isolation of the sick affected by known contagious diseases) are utterly absurd, injurious, and oppressive, and are wholly inoperative to prevent the introduction and diffusion of disease.

Few questions connected with Medicine have been more widely discussed than the subject of contagion, and it is not to be denied that a "very great, and apparently irreconcilable, difference has long existed among medical men regarding the exact amount of influence exerted by contagion in the propagation of disease."

The important discoveries which have been made recently in Organic Chemistry, the amount of positive knowledge which has been acquired in relation to the chemical compounds of the living organism, and the nature of those morbific chemical actions which influence the decomposition of organic bodies—all these, by putting us in possession of a large mass of scientific facts, have served to unite opinions, and to enable us to reason more correctly on this subject than at any former period.

That we may the more perfectly understand this subject, to

which for a brief period I ask your attention, let us for a moment consider, that every human body consists of a mass of organic elements, or chemical compounds, produced and controlled by certain vital affinities. These various organs and tissues of the body constitute the most beautiful specimen of mechanism, the most perfect combination of power, and the finest development of action, presented by the physical world. All the functions and chemical affinities of these organs are carried on, modified, and entirely sustained by that mysterious agent termed *life*. So long as this vital force is in operation, its action is not only constantly opposed to decomposition and organic change in the living body, but whenever any virus, or cause of disease of any kind, is by any way introduced into the system, a vital action, which we term fever, is set up to oppose and prevent the effects of the morbific agent, and to expel it from the system. Let, however, this influence of life which so preserves and controls the vital elements and organic compounds of our frames, be withdrawn, and decomposition and structural change commence at once, in all the organs and tissues of the body, and our vital organisms are resolved back into their primary elements. Recollecting these facts, then—first, that every living body is a perfect chemical laboratory, in which vital actions, affinities, and combinations are being constantly performed; and, secondly, that any variation from the perfect performance of these vital actions, or functions, constitutes disease, and is an interference. more or less, with the chemistry of life,—bearing in mind, I say, these facts, we shall be able better to understand what contagion is, and to comprehend how the introduction of any contagious matter into the system, may prove a decomposing agent, which shall become active on the organism and give rise to the actual formation of compounds in the blood that are incompatible with life, and which must either be removed, and their action arrested, or must go on increasing till life is overcome.

The principle to be apprehended with regard to contagion, then, is this:—The blood is a compound fluid, containing special materials, on which alone the several specific poisons have power to act. Most of the contagious diseases, therefore, are produced, and are perpetuated, by a specific virus which is

formed originally in the living blood. This virus, thus formed, on being introduced into the blood of a healthy individual, will meet with the same material as that of which it is composed, and will therefore be there reproduced, and in this manner contagious diseases may be infinitely propagated.*

This morbific poison or cause of disease may be communicated to others by direct contact, or the effluvia arising from the bodies of the sick may be inhaled through the medium of the atmosphere, and thus find its way, through the lungs, into the circulation. In whichever of these ways the poison is introduced into the blood, it there finds in this fluid a special material on which the virus is capable of inducing its own peculiar action and of producing in the system the same form of disease as its own. A person thus subjected to this morbific action, and having once undergone the disease, is, as a general rule, secured against a second attack. Among the diseases which are indisputably contagious are the *exanthemata*, or eruptive diseases, such as small-pox, scarlatina, measles, and typhoid fever, together with hooping-cough, hydrophobia, and a few others. "Experience has proved," says Charles Wm. Bell, "that the special materials on which alone the several specific poisons have the power to act, though unknown as to their exact nature, are various, and frequently finite in the system; that the portion of the system capable of being so acted upon is generally of limited quantity, and not essential to existence, and that when once converted to a new and different condition and expelled, it is not, for the most part, again reproduced."†

Leibig, in his "Organic Chemistry," has partially defined the action of specific poisons in producing disease, in these words. He says: "If the exciter" (to chemical action) "be able to impart its own state of transformation to *only one* of the component parts of a mixed liquid, its own reproduction may be the consequence of the decomposition of that body."

* The term ***Contagion*** was formerly restricted to the communication of disease by direct contact; and ***Infection***, to that by effluvia arising from the bodies of the sick, and communicated through the medium of the atmosphere. As the same result occurs in both cases, the introduction of the specific poison into the system, the terms are now considered synonymous.

† Trans. of the Provincial Med. and Surg. Asso., Vol. xvii., p. 8.

By a more familiar illustration (one which Mr. Bell and others have employed*) the action of specific poisons in the system may be understood if we recall the effect which is produced in a saccharine solution, containing a small proportion of mucilage, by adding to it an active ferment. Fermentation being induced, the gluten is acted upon, atom by atom, till the whole has been converted into new ferment. This accomplished, further fermentation ceases for want of material to act upon. The parallel of this with eruptive contagious diseases, as small-pox, scarlatina, &c., is exact. When an atom of the virus of any of these diseases is introduced into the blood of a healthy system, all the morbid material it contains is converted into its own condition, and the production of fresh virus only ceases after all that this exciter has power to act upon has been consumed. But, further, if a small portion of the gluten that is undergoing transformation be transferred from the first solution to another similar one, it will propagate the same action to all the gluten it contains; and so will a small portion of the virus thrown off from the blood of one person, and absorbed into that of another, propagate its action to all the *materies morbi* that is present in that body.

With regard to the primary origin of contagious disease, for all specific diseases must have arisen from some cause, at some period of time, however remote, Sir Gilbert Blane says: "There is not a secretion or exhalation of the human body which may not be so vitiated as to produce diseases communicable to others by contact or respiration, under fortuitous circumstances of combination, &c. So that there may be more maladies awaiting our species, which are still to develope themselves, under the endless combinations of the incidents of human life, through endless ages to come." In the history of Medicine, no fact is better understood than this, that some diseases of ancient times have become extinct, whilst others, whose existence was before unknown, have made their appearance since the dawn of Medical Science.

Until the middle of the sixth century small-pox was utterly unknown in the Western World, although it is well ascer-

* Ibid., p. 9.

tained that it existed in Asia, and especially in China, for an incalculable period before this scourge was known in Europe. Here, at length, it was introduced by the wild tribes, from the plains of Tartary, who added this evil to the devastation spread by their arms over the most civilized portion of the earth. "History," says Mr. Bell, "almost forces upon us the conclusion that, of all the myriads throughout the world who have suffered from this disease, not one has been so affected but by the propagation of new germs from the original virus, produced in the body of some ancient inhabitant of China, centuries before the disease was even heard of in Europe."

We can now understand, I think, the nature, the *modus operandi*, although we cannot comprehend the magnitude, of the blessing of the wonderful discovery of Jenner.

During a period of more than twelve centuries that loathsome and fatal disease, small-pox, had been committing its ravages throughout all Europe. About one-twelfth of the population of the globe had been, during these centuries, either destroyed, or deprived of their health, or disfigured, by this plague. In Great Britain alone, forty thousand persons died annually of this malady. But in 1796, a young physician of England, by adopting a course of careful, scientific inquiry, collected observations which led to a discovery that has already conferred untold good upon the human race, and has given immortality to the name of its author! This discovery of Jenner is a perfect illustration of the agency of a specific virus on its special material. Here a poison originating in the human system, but modified by passing through the constitution of the cow, is capable of exerting on that morbific material which exists universally in the blood of man, and upon which the small-pox virus, when communicated to the system, exerts its power, is capable, I say, of acting upon it in such a manner as to neutralize it, or expel it from the system, and thus, in a great measure, to render innocuous the contagion of small-pox. And this is only one of the glorious triumphs of our art. This discovery, like the Minerva from the head of Jove, sprung at once, perfect and efficient, from the studies and experiments of its great discoverer! The health and life of millions are preserved through its agency, without sacrifice of pain or privation.

And yet how was this discovery—than which, of all the blessings that have ever been bestowed by man on man, none has proved greater or more important—how was this discovery hailed by his professional confrères and the educated public? During all of Jenner's investigations, and these were continued for several years before his discovery was perfected and admitted, he received no aid whatever from his medical brethren. Indeed, in all his inquiries he was met only with opposition and ridicule, for, as his biographer has stated, having brought the subject frequently before the "Medico-Convivial Society," of London, to which Jenner belonged, it was at last *voted a bore* by the members of that society. And when at length he had succeeded, by introducing into the blood of an individual a small portion of the vaccine virus, in reproducing the disease in the human system, and was preparing to test its protective powers by innoculating his patient with small-pox matter, at this stage of his labors he was not only trembling for the result, but shrinking with nervous anxiety from the anticipated jeers of his professional brethren, should he fail in the trial, for at this period he thus communes with his friend Gardner: "Should anything untoward turn up in my experiments, I should be made, particularly by my medical brethren, the subject of ridicule, for I am the mark they all shoot at."

But the members of the medical profession were not the only opponents of Jenner, or of innovations in medical practice. Sir James Johnson, in his review of the life of Jenner, asserts that Ehrmann, a divine of Frankfort, attempted to prove from quotations of the prophetical parts of Scripture, and the writings of the Fathers of the Church, that vaccination was nothing less than Antichrist! Whilst another learned divine of the Church of England, in the eighteenth century, preached a sermon in London against innoculation, wherein he claimed priority for this discovery for one who has never been considered a regular member of the profession, for this learned divine publicly declared that innoculation was no new discovery, inasmuch as Job, he asserted, was first innoculated by the devil!

We have stated that all contagious diseases are produced by specific poisons, and that these poisons have their origin in the living blood. The number of diseases originating in this man-

ner are quite limited. Nearly all other affections, except those which have already been named as indisputably contagious, arise from deleterious or poisonous agents, which are found extraneous to the body, and from elements which do not exist in the blood, and are therefore necessarily *non-contagious.*

In my second proposition it is stated, that those diseases which are designated *Endemic*, or such as are confined to localities, and have their origin in local causes, which are more or less preventible, that these are not necessarily or ordinarily contagious, although from mismanagement and other causes they may become highly contagious. The most fruitful causes of endemic diseases are miasmatic exhalations, or exhalations arising from the decomposition of vegetable matters, or mixed masses of animal or vegetable substances, emanations from stagnant waters, from cess-pools, and from bad or imperfect drainage, the use of putrescent food, imperfect ventilation, etc. These causes may operate singly and separately, or may act in combination. By crowding together large masses of living beings in a confined atmosphere, with deficient food, such as our prisons of earlier times, and our emigrant ships of later periods, have enclosed, fevers of a malignant character are engendered, which are capable of becoming intensely contagious.

Epidemic diseases, on the other hand, differ from the specific and the endemic diseases, inasmuch *as they in themselves are never contagious.* Arising from causes which do not emanate from the bodies of the sick, but from external atmospheric influences, they are extended over the earth's surface, partially or generally, and are governed by unknown laws, over which man has no control. Not so, however, with the local or endemic causes of disease which we have just enumerated. These, such as malarious exhalations, putrescent food, foul water, offensive effluvia, and imperfect ventilation—all of which are more or less under man's control, are the poisons which engender in the system a special liability or "predisposition" to disease, and which impart to *all epidemics* their greatest potency. This relation which these two great causes of disease bear to each other is one of the highest importance. It is a subject which has recently received a large share of attention from scientific professional investigators, and which is one in which all should

be deeply interested, who regard the health and welfare of their own families, or of the communities in which they dwell.

That we may the better comprehend a subject of so much importance, we will now endeavor to explain—and will do it in as brief a manner as possible—the effect, or the *modus operandi*, of these predisposing causes upon the living body, and their connection with the great exciting cause of disease—epidemic influence.

The proposition already laid down must not be forgotten—namely, that the specific poison, from which contagious diseases arise, originates in the living blood, and that on being introduced into the circulation of a healthy individual, it there finds the same morbid material as that of which it is composed, by a fermentation of which, a reproduction ensues. Now, it is admitted by most pathologists, that the poison of epidemic diseases also acts on the blood in the manner of *ferments*. But this poison, instead of being engendered *within* the body, is always introduced *ab extra;* and, moreover, experience has established this important fact, that the presence of some special fermentable element in the blood is necessary to enable the poison of epidemics to be developed in the system. To this peculiar morbific substance, or ferment, the term *azotized matter* has been given, which is understood to be, says Dr. Carpenter, a material already in a state of putrefactive alteration, and, therefore, precisely in the condition in which it is most readily acted on by ferments.

Let it still be borne in mind that this material does not exist originally *in the blood*, like the *materies morbi* of contagious diseases, but like the poison of epidemics is always introduced from without, and as it arises from local causes which exist in our midst, may be made, if we will, subject to our control.

The presence of such a matter is absolutely requisite, in a great majority of cases, for the morbific action of epidemic poison, which poison has no direct action upon healthful blood, and the liability of each individual among a number who may be concurrently exposed to the same epidemic poison, will mainly depend upon the degree in which his blood may be charged with the matters in question.*

* Med. Chi. Review, vol. xi, p. 128.

Whenever the cholera atmosphere, for example, is conveyed to any place—and what is true of the cholera poison is true also of the poison of a large number of other epidemic diseases—its diffusion and severity among the inhabitants of that place will depend entirely upon the predisposition to the disease existing in their systems from the local causes to which I have referred. With the *origin* of these poisons, which give to epidemic atmospheres their peculiar morbific qualities, we are as yet unacquainted. We only know that "in the very same localities, and under identical circumstances, so far as can be traced, different forms of epidemic disease prevail at successive periods," as typhoidal or typhus fever, dysentery, epidemic cholera, yellow fever, etc. But even were this knowledge attainable, could we discover the causes from which these epidemic poisons emanate, it is not probable that the extermination of the diseases which they produce could be accomplished by medicine. Like the other phenomena of nature, these are doubtless beyond our control. But although this knowledge is denied us, there has been revealed to us another truth of vast importance, one which has been established by such a mass of evidence, that we have no longer any excuse for disregarding it.

Experience and repeated observations, made in every part of the world, where epidemics have prevailed, have shown whenever, during their prevalence, any portion of the inhabitants are exposed to any one or more of the local causes, to which we have often referred—malaria, putrescent food, foul water, or atmospheric impurities of any kind, that upon those thus *predisposed* the epidemic poison, whether it be that of cholera, typhus, or yellow fever—first seize, and there manifests its highest degree of intensity.

On the other hand, all who have observed the progress of epidemic diseases are fully aware, that without any of these deleterious influences, the poison of epidemics is completely innocuous.

Viewing the matter, therefore, in this light, we have an explanation of the fact, that some localities will remain exempt from disease, frequently for years, when, without any appreciable cause, a severe epidemic will be developed. The existing local causes of disease in such places may, and often do, prevail for

several successive seasons, producing in the meantime only the endemic affections which are peculiar to the localities, or to the nature of the poison. No sooner, however, do we have the epidemic morbific influence added to the local poison, than we have developed some variety of zymotic disease, which form of disease will characterize the nature of the special agent with which that commissioned atmosphere is charged, whether it be the poison of influenza, of cholera, or of yellow fever.

The conclusions, therefore, to which we must necessarily come, from a consideration of these facts and observations, are :—

1st. That for the invasion and development of epidemic disease, the existence of two conditions is absolutely required—namely, the presence of the epidemic poison in the atmosphere—an agent not subject to man's power ; and the introduction into the system of a morbific decomposing matter, that has been generated in some external source, "and which consequently is preventable."

And 2d. That the invasion of cholera, of yellow fever, and of other epidemics, is as effectually prevented by preventing the accumulation of azotized matter in the system, as by arresting the development of the epidemic poison itself.

If we refer to the history of cholera again, as an illustration, every medical man, who has had experience in this disease, is fully aware, that the inhalation of the foul air of our dirty lanes and cellars, the use of damaged food, or of water charged with decomposing matter, the presence of exhalations from marshy places, or from cess-pools, or imperfect sewerage, that these are among the most powerful, and certain of the predisposing causes which determine an attack of cholera. Abundant examples of this kind could be furnished, as having occurred during each visitation of the cholera in our own, and in other countries.

Another most remarkable fact that must not be forgotten in this connection, is the one admitted by Dr. Carpenter and other eminent physiologists, that "each of these causes, without a single exception, tends to induce *one and the same condition of the blood.*" The conclusion, then, seems irresistible, that this condition of the blood, in which it is charged with decomposing organic compounds, is that which is the immediate source of its

liability to be affected by the introduction of zymotic or epidemic poisons.

Now it is this last-named ally of disease, this morbific condition of the blood—a condition effected entirely by local causes, over which man, through known and appropriate sanitary measures, established by legislative and municipal enactments, and executed by individual energy, has efficient and positive control.

These views are not based on theory, but on opinions founded on observations, and corroborated by the experience of many scientific observers. The Registrar-General of England, who, in the fulfilment of his official duties, has for many years enjoyed a wider opportunity for studying the nature and cause of the great epidemics of the earth than perhaps any other man—the very man who has the most cause to know the power of this pestilence, says the Medico Chirurgical Review, "is he who most loudly proclaims how its career, and that of other epidemics, is to be arrested."

"The causes of typhus, of influenza, of cholera, and the like (epidemic) diseases," he affirms, "will not long remain in undisturbed possession of the earth and the air. * * Hydrophobia disappears, when the dogs which are liable to become mad or to be bitten, every summer are removed by police regulation; so will the other zymotic diseases give way when the putrid, decaying, noisome atmosphere, exhaled by church-yards, slaughter-houses, the tanks of dirty water companies, cess-pools, sewers, crowded dwellings, is purified and dissipated. The sewers and cess-pools, now under our houses, will inflict more pains and destroy more living than ten thousand mad dogs let loose in the streets, *and may as certainly be removed.*"*

Until right views are entertained by the public guardians of the public health, with regard to the nature of the predisposing and exciting causes of disease, and the relation which these causes bear to each other; until our Sanitary Commissions, and Boards of Health, are composed of scientific members of the medical profession, with power to act independantly of party or political influences, the public will never know the amount of controlling influence man really possesses over these dis-

* Med. Chi. Review, vol. v. p. 223.

eases; they will not understand, what is capable of demonstration, that it is possible, not only greatly to mitigate the severity of these epidemic visitations, but to keep the greater number of them absolutely at bay! And this is to be accomplished, not by stretching sanitary cordons around our borders, or by establishing quarantine restrictions and regulations at our ports of entry, but by attending to those sanitary measures, well understood at the present day, and which are sternly demanded for the removal of those local causes of disease which so greatly abound in our cities.

We are no advocates of the gloomy theories of Wallace and Malthus, that Providence, for the purpose of punishing vice, and in order to set bounds to the increase of mankind, hath ordained that pestilence and famine shall, from time to time, recur, that the earth be not overstocked, and men laid under the cruel necessity of killing one another. Rather would we maintain the benevolent doctrine of Talfourd, that there exists no decree of Providence, or any insuperable obstacle, in the constitution of nature to the development of her vast and untried resources; for, surely, "immense regions of unbounded fertility, long successions of spicy groves, trackless pastures, watered by ocean, rivers, formed to let in wealth to great continents, and islands which lie calmly on the breast of crystal seas, were not created for eternal solitude and silence. Until these are peopled, and the earth is indeed 'replenished and subdued,' the command and the blessing, 'increase and multiply,' must continue unrecalled by its Great Author."

Still, we believe, that as the tornado, the lightning, and the storm, have their appointed task, so have epidemics their destined mission, and like these, are the agents of a wise and a benevolent Creator, and are intended to effect, ultimately, a removal of those social evils which, through man's inhumanity to man, still "make countless millions mourn."

What the Registrar-General has said of cholera, may, with equal truth, be said of that pestilence which has recently visited, with such awful devastation, several of our neighboring Southern cities, and which, unless we heed the many warnings we have received, may ere long make our crowded, neglected city its quarry. Of this epidemic, he says: "It is a health inspector that

speaks in language which nobody can misunderstand; it visits the prisoner in the hulks, on the polluted river; the neglected lunatic in his cell; the crowded workhouse; the establishments for pauper children; the sides of stagnant sewers; the undrained city; the uncleansed street; the cellar and the attic, as well as the fair open quarters which strangers frequent and admire. *The oversights, the errors, the crimes of persons who, in responsible offices, have charge of the health and life of men, are proclaimed aloud by this inexorable voice!*"*

We do not entertain a doubt that when all the facts shall be known with regard to the history of this late, fearful epidemic, it will be found that the inhabitants of these doomed cities had been dwelling amidst pestilential, malarious exhalations, engendered in their own vicinities, and which, by corrupting the blood, had fully prepared the system for the certain reception and development of the epidemic poison.

The belief in the doctrine of the importation of the poison of cholera and of yellow fever is rapidly disappearing wherever, in the light of medical science, careful observations have been made; and, although the doctrine is still maintained by multitudes, yet this constitutes no real ground for its being truthful.

"Man," says a quaint writer, "is a gregarious animal in the domain of thought as well as in that of action, and thus a set of notions, supported by some external plausibilities, be it in religion, politics, philosophy, or physic, once set a going, is like a snow-ball which a boy rolls along the street, until its size becomes too great for him to move, the increase having taken place by the absorption into the mass of various unattached particles of snow with which it was brought into contact; so with a doctrine, which goes rolling along through the world, and in its course meets with vast numbers of unattached minds—minds devoid of definite ideas on the subject thus brought into contact with them, and like the particles of snow, they give in their adhesion. Nor does the parallel stop here, supposing the doctrine to be erroneous, for what a hot blast of sunshine is to the snow-ball, free and public discussion is to the doctrine—namely, the cause of its liquefaction and dispersion."†

* Med. Chi. Review, vol. v. p. 216.

† Trans. of the Prov. Med. and Surg. As., vol. xvi. pp. 83-4.

I have thus, gentlemen, endeavored, in as brief a manner as possible, by interrogating the revealed laws which govern the origin and propagation of contagious disorders, and by inquiries into the nature and influence of the predisposing and exciting causes of epidemic visitations, to show what control man may exercise, if he will, over the diffusion of these destructive forms of disease.

Of the changes demanded in our sanitary regulations to ensure protective measures, it is of course impossible, on an occasion like the present, to treat. Contagious diseases demand isolation—the separation of the affected from the healthful—but not quarantine restrictions. How entirely useless and absurd it must be for a community to attempt to bar out contagious affections by quarantine regulations, when all this class of diseases may be found, at all times, more or less existent in the midst of every large community? Over the laws which govern the diffusion of the poison of epidemics, man, as we have already seen, can exercise no control. But not so with the local causes of disease, from which emanate those decomposing matters whose introduction into the system imparts to all epidemics their greatest potency. Let those sanitary regulations be instituted, and carried out in the broadest and most comprehensive manner which look to a thorough and radical improvement of the condition of the poor, and to a removal of all those ills and imperfections in our social conditions, which are so manifestly indicated, on the occurrence of any epidemic, as being the special agents of disease—let all those improvements which are now demanded by medical science, for the welfare of humanity, be faithfully accomplished by appropriate legislative enactments and energetic municipal regulations, and the hitherto fatal epidemic will be robbed of its power. Do all this, you who stand as the public guardians of the public health, and you shall have complied thereby with the great requirement of Divine Benevolence, to "do unto others as ye would that others should do unto you." Do this, and you shall have stamped the lintels and the side-posts of your own dwellings with the Paschal sign of mercy, and the destroyer will not be suffered to come in unto your houses to smite you or yours!

In conclusion, gentlemen of the medical class and of the med-

ical profession, let me again impress you with the importance of making yourselves thoroughly acquainted, not only with the laws of disease, but with the nature of those sanitary measures which are required for the protection of all large communities.

On you who are, and who are to be, members of our profession, will devolve the responsible labor of urging on, and of administering Sanitary Reform. In accomplishing this—and no other body of men, says the Medico-Chirurgical Review, can do it—the medical profession "will be fulfilling the most important duties which any class of men have ever rendered to a State in the history of the world. They will be indeed realizing the prediction of Descartes, who saw, in the unfolding of medical science, the amelioration of mankind. They will convince even those miserable skeptics, who dare to sneer at medical science because it cannot cure, like a God, those diseases which the self-indulgence, the sensuality, and the brutality of years have induced, or to remedy, as by a miracle, those ills which the neglect and cruelty of men have inflicted on their fellow men—they will convince even these detractors of a noble calling, that medical science, which had its birth in the weaknesses and necessities of the human race, is as the light arising out of darkness, which itself destroyed that from which it sprung!"*

European Practitioners.—No. I.

SIR BENJAMIN BRODIE, BART.

Sir Benjamin Collins Brodie, present Sergeant or First Surgeon to the English Queen Victoria, is of Scotch extraction, though born in the English town of Salisbury, some seventy years ago. His family migrated to that southern latitude about the middle of the last century, and, like all true Scotchmen, never again sought their native land. Sir Benjamin's father established himself there as a general dealer, at first on an exceedingly small scale; but gradually he extended his enterprise and connection. From being a "merchant" who

* Med. Chi. Review, vol. v. p. 226.

dealt in tapes, haberdashery, and general wares, he progressively became a journalist and a banker, too. He never, indeed, attained the celebrity of the noted English miser, "Jamie Wood," who in the neighboring town of Gloucester started, about the same time, a similar establishment, and ultimately carried it to such an extent, that he would have sold a yard of tape or a red herring at one end of his counter and immediately afterwards discounted a £10,000 bill ($50,000) at the other. But old Brodie, though never so wealthy, became more important, chiefly in consequence of his newspaper, which was an instrument or species of property of which Wood stood in wholesome and most respectful awe. A connection in marriage with the celebrated Dr. William Hunter, brother of the illustrious John, also materially aided him in his prospects, and was the chief cause of his educating his present son to the profession of a surgeon.

Science has assuredly no more illustrious offspring to boast of than the immortal John. Devoted to it alone, he passed his life in neglect and penury, but not disgrace. Others might seize the hour—he preferred the day. He was contented to pass an age in comparative obscurity, but knew that posterity would be his bright inheritance. "*Carpe diem*," he said to them, well knowing that the morrow would be his. His brother aspired to tread the common but lucrative steps of fashionable practice—John preferred the more distinguished, though unproductive paths of science; and hence, while the reputation of the other—a distinguished physician, and, above all, obstetrician, in his day—has long since passed away, the once humble journeyman cabinet-maker of the Scotch city of Glasgow has left a name which distant nations still revere, and unnumbered generations of men will yet admire.

It was chiefly through the medium of his uncle, the late Sir Everard Home, that the subject of this sketch was connected with the Hunters. Sir Everard was a nephew of these illustrious men; and to his lasting shame it is recorded that, having been appointed scientific executor to John, he was guilty of the inconceivable meanness and atrocity of burning the whole of that great philosopher's unpublished works, in order to conceal the thefts which he had perpetrated on them

for the purpose of procuring a surreptitious reputation for his own dull and drivelling productions on similar topics. It is impossible now to conceive the incalculable loss which science has sustained by the nefarious conduct of this vile plagiarist. There was no subject Hunter touched that his genius did not illuminate; and though his language was often humble, and his conclusions were sometimes erroneous, he still exhibited a profundity and an accuracy which all posterity must acknowledge. "*Nil tetegit quod non ornavit*" might truly be said of him. His brilliant genius reflected lustre on every subject on which it touched; and mankind must deplore this loss, as well as stigmatize this turpitude, so long as medicine or surgery shall be cultivated as a science.

Having completed this iniquity, Sir Everard descended in infamy to the tomb; but he had previously obtained the post of chief-surgeon to St. George's Hospital, a fashionable establishment in London, and to this he also succeeded in nominating his nephew, the present Sir Benjamin, as his successor. Sir Benjamin, we believe, in common with us and the world at large, repudiates the utterly abominable act by which science was robbed of so bright a treasure; but, being of a temporizing nature, he has never ventured publicly to avow his opinion. The exact relations in which he stood to his uncle in this respect are unknown. It must, however, be mentioned to his honor that he has never ventured to justify such gross misconduct.

Having completed the usual branches of a sound but by no means highly classical education, Brodie entered as a student at the hospital we have mentioned, and rapidly rose to the post of its junior surgeon. On attaining this stage, however, he deemed it expedient to remain for a time in obscurity, his uncle having about that period attained a notoriety so unenviable that Sir Benjamin—wise even and calculating in those days—thought it well for the moment to withdraw comparatively from public notice, in order to divert attention from the reprehensible system of nepotism to which he owed his appointment. This system at that period was then in its zenith. "Do you know no old woman connected with the hospital?" asked the late Sir Astley Cooper of a young aspirant for

office, who then presented himself. "No," replied the innocent applicant, "aunt be gone and mother be dead;" and the *naïveté* of the reply so amused Cooper, who alluded to old women of the masculine order, that he felt interested in such simplicity and finally secured the young candidate a place. He was, indeed, afterwards severely taken to task for such profanity; but his defence afforded a still better illustration of the prevalence of the system. "How is it," he said to the Governors of Guy's, his own hospital, "that I can be represented as hostile to this species of appointment? Have I not one nephew here?—have I not another at St. Thomas's, over the way? Is not my stepson a medical officer of one establishment—my brother-in-law of another—Mr. Travers, my late apprentice, already introduced into a third berth—and am I not just on the point of installing another pupil into a fourth? What reason have I to decry the system?"—and the logic was unanswerable, though it only the more effectually proved the prevalence and utter abuse of the obnoxious influence and arrangement. What Cooper declared of the hospitals in the east end of London was equally true concerning those in the west. Talent and ability were wholly excluded unless accompanied by local influence or connection. Hypocrates or Celsus himself would have been refused admission as an official to their portals, if unconnected with some of the wretched and corrupt old women who governed them.

Brodie, accordingly, thought it wise to remain for some time in obscurity, but this he turned to advantage by a really recondite study of his profession. Even at this early period he discerned that the dashing or operative system of surgery which Cooper then had introduced, and Liston subsequently carried to such a butcherly excess, was erroneous. He wisely preferred combining medicine with surgery, and pursuing both as one great inductive science. Hence he was never an able operator, but always an intelligent physician. He had little regard for the mere triumphs of the knife, but placed great reliance on conclusions made from researches in pathology.

The advantage or superiority of this system soon disclosed itself. When he first entered upon general practice, in the year 1816, he was soon recognized as a reflecting and discrim-

inating physician, who exhibited all the ability of this division of the art under the aspect of surgery. He was not a showy man, but he soon acquired the reputation of being a sure one. In due time he was accordingly elected one of the incipient or "surgeons extra-ordinary" of George the Fourth.

Here he soon had an opportunity of distinguishing himself. Wardrop, the real surgeon—and still an ornament to the profession—had given offence at court by the freedom or honesty of his remarks; and Cooper, who was called upon to supply his place, was guilty of a most unwarrantable species of *satire*. He had been called upon to remove a small tumor from the royal head, and the chief ground of complaint, it seems, was that the excrescence (a steatomatous one) was an "eye-sore" to the Marchioness of Conyngham, the royal mistress. Cooper—a zealous but most clumsy courtier—made fun of this by telling the story to his class, and as he insinuated that the seat of the disease was not the *occiput* but the very opposite extremity of the royal person, the idea of an "eye-sore" to a lady in this direction was of course highly offensive to royalty, however coarsely amusing to a lecture-room. Sir Astley accordingly soon got his *congé* from court; and the able and upright but plain-speaking Abernethy having highly offended George the Fourth, by replying that he "would visit him in his turn," when commanded by that monarch to attend his favorite brother, the Duke of York, Brodie found himself suddenly, and at an unusually early age, introduced into the coveted elevation.

He merited it, perhaps; and he attended George the Fourth on his death-bed in turn; having the felicity, in the bulletins daily issued to an admiring people, of subscribing his name after Sir Henry Halford's, the fashionable fribble who, as physician, attended four generations of English sovereigns. Of William the Fourth, too, he was likewise one of the principal surgeons; but he has never yet been called to act in this capacity to her Majesty Queen Victoria. By some this is ascribed to his supposed reluctance to associate his name with Sir James Clark's; but others—including those who know Sir Benjamin well, and that to such considerations he is not particularly sensitive—surmise that his absence is to be attributed to the

watchful jealousy of the court physician, who is sedulous to introduce to her Majesty no man abler or less uncouth in appearance than himself.

It must not, however, be supposed that Brodie owes his advancement exclusively to merit. On the contrary, corruption or parliamentary influence lies greatly at the bottom of it. So soon as he acquired a footing at court, he warily determined to avail himself of political aid, and accordingly got his brother, who had succeeded to the paternal till and newspaper, to purchase a seat in Parliament. Sir Benjamin assisted largely in this speculation, and thus obtained the support of the Whigs, who have been generally in office for the last quarter of a century. The brother, of course, gave the government the benefit of his vote in turn; and during the rare intervals when the Tories were in power, Sir Benjamin was one of the most adroit species of courtiers. He was, in fact, supple as an eel; obsequious to Sir Robert Peel while he was Premier, as he would have been to Mr. Feargus O'Connor, had the Chartists succeeded in placing him in that distinguished elevation.

Yet Sir Benjamin is not an unworthy man, though he cruelly killed Sir Astley Cooper more than once. We remember that portly baronet—himself one of the most accomplished medical tradesmen that ever existed—deploring loudly, and denouncing with equal harshness, the ingenious manœuvre by which Brodie had more than once combined to withdraw custom from his till. Sir Benjamin, according to Sir Astley, was guilty of the artifice of transmitting intelligence to the newspapers of Cooper's sudden and lamented demise, and thus profiting by the fabrication until the other was able to contradict it. On one occasion, if we may believe Sir Astley, the affair was so clumsily managed that he traced the rumor to his rival's coachman, and a great influx of patients ensued to Sir Benjamin before Sir Astley succeeded in ferreting out the stratagem. It is but fair to add, that if Brodie resorted to such schemes, he has himself been the victim of them in turn; the last of these professional *tours de main* practised upon him being a full, true, and particular account of his having sustained (on paper) a double compound fracture of the left leg, while descending from an ordinary omnibus, in a London suburb.

But in petty intrigues such as these the life of a London medical man wears away. He appears a giant to the students or inferior practitioners who surround him, yet is in all respects really paltry and insignificant as themselves. The profession being never entered by any member of the aristocracy—doubtless in consequence of its requiring greater intelligence, or at least greater exertion, than either the army, the navy, the church, or the law, to the last of which they in rare instances resort—is voted low by the fashionable people who there govern the world, especially that little world which is designated the World of Fashion. A medical man has consequently nothing to occupy his attention except merely petty and professional considerations. He is not allowed to interfere in affairs of politics, or at least is for ever excluded from fashionable practice, unless he slavishly reëchoes the opinions of the aristocracy. Sir Astley Cooper, a Red Republican, and even a *Robespierreist* in his youth, was thus obliged to renounce all liberal sentiments on entering upon practice, and he even became an ultra-absolutist in his age. Sir Benjamin Brodie, from motives of personal opposition, became a Whig, but merely because Whig politics were then becoming fashionable, or at least influential. To all intents and purposes he was far more domineering and repulsive than Cooper, who endeavored rather to rule on the principle of *suaviter in modo*, and concealed his despotism under an aspect of *bonhommie*. Brodie, on the other hand, is a tyrant undisguised. He may trim to his political superiors—and a most palpable trimmer he is—but in medical matters he is a despot unconcealed. Neither the annals of St. George's, nor of any hospital whatever, present such a scene of tyranny, corruption, and intrigue, with utter exclusion of all who refused to become the slaves of the domineering and intriguing band, as that of which Brodie was the chief.

We say this with regret, but stern justice and truth require it. In all these respects Brodie has been a most objectionable man, and has set a most pernicious example. It is no excuse for him to say that he has not personally profitted by them, and that he has trained up no son to the profession. He has educated his son for a higher department—chemistry, or abstract science

—merely because, having now got rich, he himself considers medicine vulgar, and can leave him an ample—indeed an enormous—fortune. In favor of his nephews—his pupils—the latter of whom must have previously paid him or the hospital a handsome fee—he has always unscrupulously exerted the most reprehensible of all influences, and has just as ruthlessly crushed, or endeavored to put down, all who opposed him and the abominable system.

In other respects Brodie is entitled to merit. He is an able and industrious author, noted for the accuracy, the laboriousness, and, in many points, the originality of his works. His principal production—on "The Joints"—is a standard authority, and all his other books are of a high order. He writes with perspicuity and point, though without elegance. As a lecturer his characteristics are similar. He speaks with ease and precision—apparently the result of much labor—but never rises into eloquence.

The leading traits of Brodie as a practitioner we have already indicated. He is in fact a better physician than a surgeon, and undoubtedly he committed an error in selecting the latter department of the art for his study. For an operator, he is in no degree qualified, being one of the feeblest and least showy that ever handled a knife. But in the other department —in the accuracy of his diagnosis and ability, as well as success of his treatment—he has no superior.

Personally, Brodie is a little, shuffling, spare, active man, who moves about on the streets with incredible activity. He has generally then a smile on his face, but it is of a most lugubrious order, and can only be compared to an undertaker's at a funeral. It is evidently constrained, and he is palpably more at home when in private, or making his rounds at hospital. Then he moves about rapidly too, but with hands buried in the profundity of his breeches-pockets, and wearing a scowl upon his face positively frightful. Still Sir Benjamin is not a hard-hearted man. On the contrary, though fond of money, he will attend a humble student or struggling practitioner with equal assiduity and disinterestedness. The man is not so stern or

callous as he appears; and we should assuredly a thousand times prefer the harsh repulsive scowl of Brodie to the hollow and heartless smile of Sir James Clark. The one evidently is not so bad as he appears—the other is palpably and undoubtedly insincere.

Case of Superfœtation. Uterus Bicorporeus. By B. FORDYCE BARKER, M.D., Professor of Midwifery in the New York Medical College, Physician to Bellevue Hospital.

There are but few cases on record where the birth of a mature child is followed after the lapse of a few weeks or months by the birth of another. Dr. Cassan, of Paris, published a thesis "On Double Uterus and Superfœtation," in which he has collected forty-one examples of a double uterine cavity. In some cases the two uterine cavities open by two orifices into two separate vaginæ. In other cases, the uterus is divided into cavities by a rupture, having only a common cervix. Since the appearance of this thesis by M. Cassan, many cases of a similar character have been published in the various medical journals. In 1852, Dr. Kelly, then Resident Physician to the Blackwell's Island Hospitals, discovered in the autopsic examination of a woman who died in the hospital, a double uterus, with two ora tincæ and two vaginæ. Both vaginal canals had been well used in sexual commerce, and it was evident from the appearance of the tincæ of each that both uteri had been impregnated. A model of the parts is in the Museum of the N. Y. Medical College.

The authenticated cases of double impregnation to which the term superfœtation has been applied are very few in number. Dr. Churchhill cites one case from the "Recueil de la Société d'Emulation," of a woman of Strasburg, æt. thirty-seven, who was delivered of a lively child on the 30th of April. The lochia and milk were soon suppressed. On the 17th of September, of the same year, (about four and a half months after the first delivery,) she brought forth a second apparently mature and healthy child. It is stated that on the death of the woman

the uterus was found to be single. We look upon this case as somewhat apocryphal.

A case is related by Desgranges, of Lyons, of a woman who was delivered on the 20th of January, 1780, of a seven months child; and on July 6th, 1780, five months and sixteen days after the former birth, she gave birth to a second, which had apparently reached its full time.

Dr. Maton published a similar case in vol. IV. of the Transactions of the College of Physicians, London. Mrs. T., an Italian lady, but married to an Englishman, was delivered of a male child at Palermo, Nov. 12, 1807. On the 2d of February, 1808, not quite three calendar months after the preceding accouchement, she was delivered of a second male infant. Dr. Maton assured Dr. Paris that "both the children were born perfect: the first, therefore, could not have been a six months child. Other cases are quoted by Beck, Velpeau and Cuming.

In the thesis of M. Cassan is related the following case, which occurred to Mad. Boivin. "On the 15th of March, 1810, a woman, aged 40, gave birth to a female infant, weighing about four pounds. As the abdomen still remained bulky, Mad. Boivin introduced her hand but could find nothing in the uterus. But her examination led her to suspect that there was another fœtus, either extra uterine or contained in a second cavity in the womb. At length, on the 12th of May, a second female infant was born, weighing not more than about three pounds, feeble and scarcely able to respire. The mother assured Mad. Boivin that she had no connection with her husband, (from whom she had been sometime separated,) except thrice in two months, viz. on the 15th and 20th of July, 1809, and on the 16th of September following." Dr. Churchhill remarks: "In this case there can be little doubt of the existence of a double uterus, and it would be difficult to disprove that the second child was not the fruit of the last conception, and if so, a clear case of superfœtation."

The following case, from the Brit. and For. Med. Chir. Rev. vol. 3, is quoted from the Bulletin delle Science Mediche, vol. xiii, p. 89: Gretena Boratti had borne six children, all at their full time, (the hand having to be introduced for the removal of the placenta on each occasion,) and was delivered of her seventh,

a full-timed vigorous infant, on the 15th of February, 1817, the placenta on this occasion being spontaneously discharged. The pains ceased, but the abdomen still remained large and the movements of another fœtus were perceived. The tumor was confined to one side of the abdomen, and before the birth of the first child a furrow along the median line seemed to separate the tumefaction into two parts. On the 14th of March, a second well-formed child was born. The first child lived 45, the second 52 days. In 1822, she had another child at full time. In 1847, she died of apoplexy, and the uterus, normal in respect to its os and cervix, was found to be bicornuated at its fundus, a fallopian tube being inserted into each of its cavities. The preparation is preserved in the Museum at Modena.

Dr. J. T. Kannon states (in the New Orleans Med. and Surg. Jour., May, 1855) that he was called in consultation to see a woman who had been delivered early in the morning of a child. There were still all the external appearances of another child remaining, the womb being entirely empty, the placenta having come away. Owing to great prostration consequent upon the birth of the child, and the womb being empty, Dr. K. supposed that laceration had occurred, and the fœtus had escaped into the cavity of the abdomen. He passed his hand into the empty womb and found its walls solid, not the least appearance of a rupture having occurred. The probability of a rupture with a double womb suggested itself to his mind, and a further examination revealed the correctness of his opinion. Looking upward and forward, near the edge of the symphisis pubis, he found the os uteri of another womb, with the head of the fœtus resting directly on the pubis. There was no effort making on the part of the womb to expel the fœtus, and the usual remedies failing to bring on the pains, an attempt to turn and deliver was tried, but the peculiar position occupied by this second womb rendered it very difficult. As by this effort it was discovered that the fœtus was dead, he resorted to the crochet, and brought away a child weighing six or seven pounds. This lady was the mother of five children, but never previously had both wombs been impregnated at the same time. The septum was horizontal with the os tincæ of the lower and posterior womb, in the natural position, the anterior considerably ele-

vated. We are at a loss to understand why forced delivery was resorted to in this case, "as there was great prostration consequent upon the birth of the first child," and "there was no effort making on the part of the womb to expel the fœtus."

The following case recently occurred in this city. I am indebted to Dr. Bigelow for an introduction to the family from whom I received the history of the case. I must also express my thanks to Dr. Burke, who attended the patient at her second confinement, and who kindly furnished me with the history of the second labor. Mrs. ——— was born in Ludlow Street, New York, in May, 1837. She began to menstruate at the age of fourteen, the function occurring regularly about every eighteenth day, and generally continuing over a week. She was married Oct. 9th, 1854. After marriage she menstruated *twice*. On the 10th of July, 1855, (nine months and one day after her marriage,) she was delivered of a healthy boy, apparently at full time. She was attended at this confinement by Dr. Finnigan. The patient states that after her delivery a bandage was applied, but finding it very painful she removed it a few hours afterwards. The lochial discharge continued about a week. She nursed her child, which is now active and healthy, and of the average size of children of its age. The patient was up and about the house in three weeks after her confinement, although her abdomen seemed to be nearly as large as before her labor, and she suffered from movements in the left side. On the 22d of September, (74 days after the birth of the first child,) she was again taken sick, and Dr. Burke, of Grand Street, was called to see her, in the absence of the family physician. On his way to visit the patient, Dr. B. learned the previous history of the case from her husband. He found the patient suffering from severe paroxysmal pains, and on applying his hand to the abdomen, he perceived that during the paroxysms the uterus was contracting. He at once made a vaginal examination, by which he detected a fœtal head low down in the pelvic cavity. On announcing this to the parent and her friends, the doctor was told that "he did not know what he was talking about, for there was her baby, nearly eleven weeks old, asleep in the cradle." But the speedy birth of a little girl soon convinced them that the opinion of the doc-

tor was correct. Her convalescence was protracted beyond that after the first labor, the lochial discharge lasting for nearly three weeks. She nurses both of the children, and both are apparently healthy, although the last does not seem to grow very rapidly. There is a very striking resemblance between them, excepting only the difference in size.

On the 24th of October, Mrs. ——— called with her husband, and I was permitted to make a careful physical examination. The external organs of generation, the vagina, and infra-vaginal portion of the cervix were perfectly normal, excepting only that the cervix was somewhat enlarged and patulous. On passing Simpson's Uterine sound, the point of the instrument could easily be felt through the abdominal walls in the left iliac region, about two inches above the superior border of the pubes. The cavity from the os tincæ measured four and a half inches. On carefully withdrawing the sound and again introducing it, after repeated trials I succeeded in passing it into another cavity about an inch to the right of the median line. The point of the instrument could be felt about a half inch above the crest of the pubis. This cavity measured three and one-eighth inches. The septum seemed to commence about an inch and one-eighth from the os externum, having a common cervical canal to both uterine cavities. On a rectal examination, the left ovary, somewhat enlarged and sensitive to pressure, could be readily felt. The right ovary could not be found by the rectal or the recto-vaginal touch combined.

Selections from Favorite Prescriptions of Living American Practitioners. (Continued.) By HORACE GREEN, M.D.

Tonics and Stimulants.

We have spoken of the *phosphate*, the *malate*, and the *iodide* of manganese as being among the most important of the pharmaceutical preparations of this metal. With some practitioners, the *carbonate* of manganese, in combination with the carbonate of iron, is considered a valuable therapeutic agent. These two carbonates, combined in equal quantities, and ad-

ministered in doses of from five to ten grains daily, constitute a favorite remedy, with a distinguished practitioner of Massachusetts.

℞ Manganesii carb.
Ferri carb., aa, ʒj
Sacchar. alb. pulv., ʒij
Misce et in pulv. xv. divide, quorum, cap. ij., vel. iij., quaque die.

Should a liquid preparation of these remedies be preferred, they may be exhibited, combined with some vegetable tonic, as in the subjoined formula:

℞ Manganesii carb.
Ferri carb. aa. ʒij
Tinct. columbæ,
Syr. sarsa. co. aa. ℥iij
Misce. Capiat coch. min. bis in die.

This combination of the carbonate of manganese and the carbonate of iron is especially appropriate for the improvement of that condition of the system which is attended with an ulcerative action of mucous membranes. In the treatment of that often troublesome affection, ulcerative sore mouth, this fero-manganese preparation, it will be found, will prove to be particularly efficient:

℞ Manganesii carb. ʒj
Ferri carb. ʒiss
Potass iodid, ʒij
Tr. Gentianæ co.
Syr. sarsa. co. aa. ℥iij
Fiat mistura. Capiat cochleare parvum bis in die.

In mesenteric obstructions, and for the discussion of glandular swellings in any part of the body, the above preparation is a valuable remedy.

The alkaloid, and the extract of nux vomica, are ordinarily arranged under the head of Excitants. We have employed these preparations, however, with great advantage, in cases where both tonics and excitants were indicated. Strychnia and the extract of nux vomica, as therapeutic agents, it is generally supposed, produce the same, or nearly the same effect upon the animal system. By some practitioners it is believed that the extract determines more to the head than strychnia. This salt may be exhibited in appropriate doses without pro-

ducing any obvious effect on the cerebral circulation. The alkaloid, therefore, should be preferred in those cases where we would excite the powers of the nervous system without increasing the action of the brain.

℞ Extract nucis vomicæ, grs. xxxii
Tinct. cardamon,
Syr. zinziberi, aa ℥j
Aquæ font., ℥ij
Fiat mistura, cujus cap. gtt. xx., vel. xxx., bis terve in die.

In chronic, gastric affections, with diminished energy of the digestive powers, the administration of the above preparation will, in many cases, by improving the appetite, and increasing the powers of assimilation, impart tone and energy to the whole system.

With one of our oldest and most experienced physicians the following pills, exhibited, one night and morning, is a favorite remedy in chronic, gastric affections, chronic diarrhœa, &c.:

℞ Extract nucis vomicæ, grs. iv
Extract opii, grs. vi
Misce. Fiat massa, et in pilulæ xvi. dividenda.

On account of the great insolubility of strychnia, this alkaloid is generally administered in the form of pills, the salt being made up with the conserve of roses, or the extract of gentian, or of liquorice. It is of importance, in the exhibition of strychnia, in many cases, gradually to increase the dose; but this is with difficulty effected, when the medicine is made up in the form of pills. A perfect *solution* of the salt may be obtained in the following manner; and we would advise that prescriptions be made up from such a solution:

Solution of Strychnia.

℞ Strychniæ, grs. xii
Acidi acetici, gtts. lx
Alcohol, ℥j
Aquæ font. ℥xi
M.

The above solution may be administered in doses of from ten to thirty drops, twice or thrice daily. Beginning with the smallest number of drops, and gradually increasing the dose, the medicine may be continued until its specific effects on the

system are slightly induced, when the remedy should at once be arrested for a few days, and its administration be re-commenced, if necessary, beginning again with the minimum dose. We have found it a most valuable and efficient remedy in some obstinate forms of neuralgia.

The following preparation may be employed often with great advantage in the treatment of chronic, gastric irritation :

℞	Solutio. strychniæ,	℥ss
	Tinct. cardamon comp.	℥iijss
M.	Cap. coch. parv. ter in die.	

A physician of much experience in the management of malarious diseases, recommends the following mixture as a most efficient remedy in the treatment of obstinate cases of intermittent fever :

℞	Solutio. strychniæ,	℥ij
	Quinæ disulphatis,	℥ss
	Tinct. ferri sesquichloridi,	℥ss
	Aqaæ fontanæ,	℥iss

Fiat misturæ, cujus sumatur cochl. parvum, quartâ quâque horâ, intermissionis tempore.

An eminent German physician, M. Frisch, has recently recommended a similar combination, in the treatment of intermittents, when the sulphate of quinia fails. This physician prescribes "from six to ten grains of the rasped seed mixed with two ounces of the cinchona bark, or with twelve grains of the disulphate of quinia, to be taken in divided doses in the intervals of the paroxysms." In some forms of neuralgia we have derived more prompt and decided effects from the use of the strychnia, when administered in combination with an anodyne, as in the following combination :

℞	Solutio. strychniæ,	℥iij
	Solutio. morphiæ (Majendie),	℥iss
	Tinct. gentianæ,	℥ij
	Syr. acaciæ,	℥iss
M.	Exhibi cochleare parvum, quaterve ter in die.	

Not only in the diseases already named, have the extract of nux vomica and strychnia proved useful, but in hemiplegia, in general paralysis, and in spasmodic asthma, great advantage has been derived from the use of these remedies. In administering strychnia in paralysis we obtain the greatest benefit

from its use, if the dose is gradually increased, until slight tetanic movements of the paralytic limbs are produced.

Administered alone, or in combination with the tincture of lobelia, strychnia has proved servicable, in some instances, in the treatment of spasmodic asthma.

℞ Solutio. strychniæ,
Tinct. lobeliæ, aa. ℥ij
Syr. tolutan, ℥iss
Misce, quorum date coch. parv. ter quaterve in die.

In one very common form of dyspepsia, attended with derangement of the biliary organs, the subjoined combination constitutes a most valuable remedy, administered in doses of one teaspoonful three times a-day.

℞ Hydrarg. bichloridi, grs. iv
Tinct. nucis vomicæ,
vel solutio. strych., ℥ss
Tinct. rhei comp., ℥iss
Syr. aurantiæ, ℥ij
Misce.

In the administration of so powerful a remedy as strychnia, much caution should always be observed. As it is one of the most valuable of our medicinal agents, every practitioner should become acquainted with its therapeutic powers, and with its best modes of administration. By commencing with small doses, and gradually increasing the amount, the remedy may be continued with safety, until slight tetanic twitchings of the muscles are produced.

In one case of most obstinate and long-continued neuralgia, occurring in a lady of this city, we administered the strychnia, and gradually increased the dose, until the spasmodic movements of the muscles were quite apparent, but without any abatement of the disease. Commencing with the original dose, the medicine was again administered up to the same point; and this was done for the third time, and with the effect of completely arresting the disease. In most cases, however it will not be necessary to continue the remedy until these tetanic movements are manifested.

Obstetrical Extractor. By Dr. A. C. BUFFUM, Chicago, Ill. (Two Plates.)

In presnting the Extractor to the Medical Profession, it is not necessary to detract from the value of the obstetrical forceps so long in use throughout the world; neither is it necessary to condemn their use, for it cannot be denied that they have, in the hands of careful and experienced accoucheurs, been instrumental in saving the lives of many mothers, and sometimes both mother and child. But, notwithstanding, there are cases often occurring where the forceps cannot be used with safety to either mother or child, and it is to fill these exigencies rather than condemn the forceps that I am desirous of introducing the Extractor. For while the forceps are so cumbersome and difficult of application, the Extractor is small, and so simple in its application that it may be applied while making the usual examination, with little or no pain to the patient. Therefore, as the Extractor may be used in all cases, it not only does away with the use of the forceps, but furnishes the physician with an instrument that may be used in all cases where an instrument is necessary.

The principle upon which the Extractor works is plain and simple, being that of introducing two small curved and jointed steel fingers into the os tincæ upon the side of the head of the child, and circumscribing the same, placing a net cap upon the head, to which the extractive force is applied.*

The Extractor consists of two finely-polished steel fingers, each twelve inches long, one-half of an inch wide, and one-eighth of an inch thick; six inches, or one-half of the length, being curved and jointed, so as to fit any shaped head; to which is attached a silk braid cap, so perfect in its construction that the whole instrument, when folded, ready for application,

* It is but just to observe, that for the principle upon which the Extractor works, I am indebted to Prof. Evans, of this city; for he caused an instrument to be constructed, with two fingers, headband and down-straps, some years ago, which he introduced to the American Medical Association, and subsequently to his classes in Rush Medical College.

is but one inch wide, and one-eighth of an inch thick, the cap forming a soft cushion on either side of the fingers, as seen in fig. 2.

FIG. 1. FIG. 2.

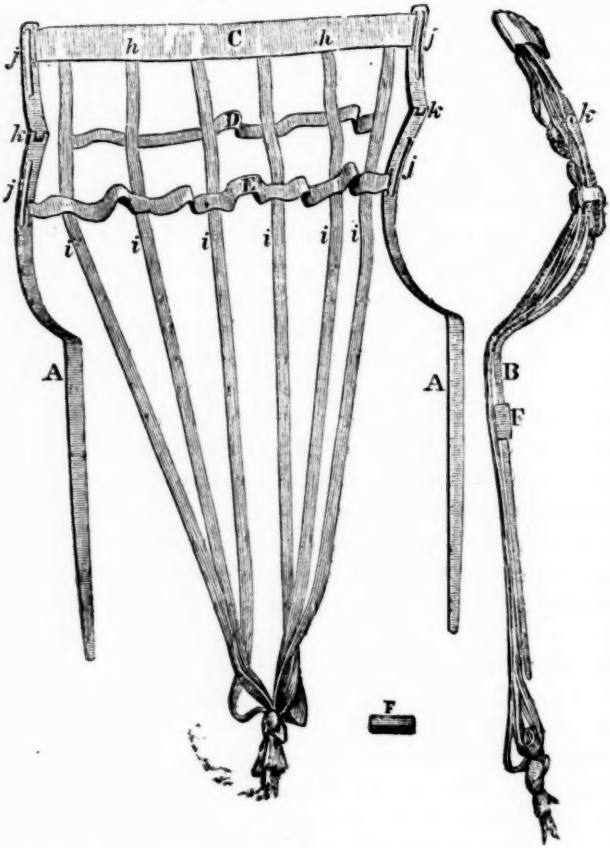
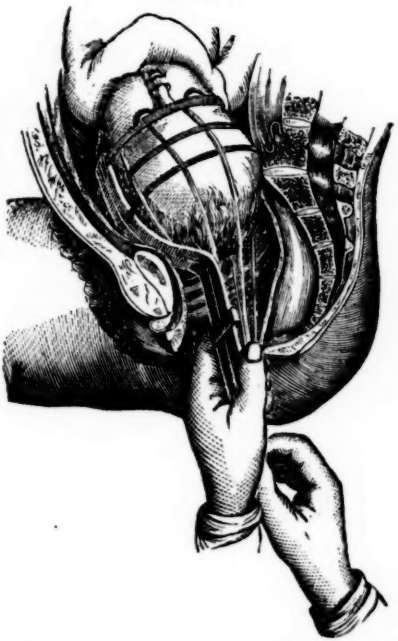


Fig. 1 gives a perspective view of the instrument, A the fingers, k the joints, and j j the fenestræ in the fingers, C the principal head-band, which is nine inches long and one inch wide, extending from finger to finger, to which the down straps. i i i, are firmly stitched; D a cross band, holding the down straps in their proper position, while E is a double band,

one-half inch wide, fifteen inches long, extending from finger to finger, through which the down straps pass. This band carries and holds the down straps in their proper position over the greater diameter of the head of the child. Without this stay they are liable to slip around the head whenever we attempt to make traction on either side of the head, as is necessary in rotating or moving one side at a time. F, the slide that holds the fingers in a position with each other; i i i i i i the down straps, each being eighteen inches long and one-half of an inch wide, composed of sewing silk, sufficiently strong for any practical purpose. These down straps serve as the warp of the cap, and a handle to which the extractive force is applied.

FIG. 3.



To prepare the Extractor for application, double the bands C and E at hh and draw the folds through the fenestræ jj, until the fingers of the instrument are brought together, giving one-

half of the net to each finger, when the slide F is to be placed upon the handles A A, and the instrument warmed in warm water and well lubricated with soap or oil.

The instrument being prepared as seen in fig. 2 for application, the patient should be placed in a comfortable position, either on her back or side, two fingers of the left hand should be introduced into the orifice of the uterus, when the instrument should be carried carefully upon the fingers into the uterus upon the side of the head, thence following the convexity of the head until the angle of the fingers of the instrument strikes the top of the head, when the slide F is to be removed and the fingers of the instrument gently separated and carried around to the opposite side of the head, until they meet, when the slide F is to be placed upon the handles, which holds them firmly together, or in other words, buckles the cross bands of the net together, as represented in fig. 3.

All is now ready for the force to be applied, but care should be taken to act in company with the labor pains, if any exist, the handles serving as a director in rotating the head, while the force is to be applied upon the down straps.

PART II.—REVIEWS AND BIBLIOGRAPHY.

"Nullius addictus jurare in verba magistri."

The Cause and Prevention of Yellow Fever, contained in the Report of the Sanitary Commission of New Orleans. By E. H. Barton, A. M., M. D., Chairman of the Sanitary Commission, President of the Louisiana Society, and of the New Orleans Academy of Science, &c. Philadelphia: Lindsay & Blakiston. 1855. 8vo. pp. 282.

Severe epidemics, like other great public calamities, are epochs in the history of nations. They produce revulsions which often result in some good. They arouse the people among which they prevail from the apathy occasioned by long-continued prosperity; they quicken the sluggish movements of corporations toward the immediate accomplishment of some long-desired sanitary act, and urge the

energies of individuals to the investigation of their causes, their means of removal and prevention.

It seems almost a reproach to our professional confrères at the South, where yellow fever has so frequently prevailed, that every effort has not already been made to disclose the secret workings which have so seriously stricken them down with disease. It needed the special intimations conveyed in the malignancy of the epidemic of 1853 to re-arouse them from the relaxation into which they had fallen during several successive years of comparative freedom from the fever ; so accustomed do we become to the presence of lesser evils, that their warnings are unseen, and of course unheeded. We do not mean to say that nothing has been done to illuminate the subject of yellow fever. On the contrary, there is no class of disease which has received so much special attention—the literature of which is so voluminous ; yet, on the other hand, it has rarely been the case that individual exertions have been seconded by municipal aid, or that such a comprehensive view has been taken of the subject as its importance demands. Monographs are plenty, and histories of particular epidemics are very numerous, but the experience of single observers is limited, and the resources of unaided historians are finite.

In Dr. Barton's work, however, we find the results produced by a large city, interested in her own sanitary condition, coming to the aid of individual exertion

The history of the epidemic of yellow fever of 1853, which raged to such an unusual extent throughout the southern limits of our country, is not one of suffering and death alone. It shows us the benevolence, the charity, the self-sacrificing spirit of a whole nation ; it records the sympathy, the devotion of one section of our country to another ; and while it relates in one paragraph the sad story of an immense mortality, it strives in another to draw a lesson of usefulness for the future. The present year has witnessed another portion of our country invaded by the fever, to such an alarming extent that cities have been rendered desolate by it, commerce impeded, and the avenues of trade transformed into highways of pestilence The scenes of panic and suffering which Norfolk and Portsmouth have presented are hardly equalled by the memorials of the plague of a past age. They have elicited a repetition of the good deeds of 1853, and the gradual approach of this disease from its southern home towards our own city, has excited some fears that another year may find it in our midst, requiring a reciprocation of

sympathy. It becomes, therefore, those who have a guard over the interests of the community, who have the keeping of the health of our city in their power, to carefully learn from the sad experience of our neighbors, to take such measures in time as their dearly-bought knowledge teaches, to prevent the eruption from any local causes, or its propagation from without.

To us at the North, yellow fever practically is mostly unknown. Few of us were yet in the active duties of our profession the last time it was epidemic here. From time to time, however, our attention has been greatly excited by its ravages in neighboring cities, and by its apparent approach to our own, so that, at no period, has the public and professional mind been more thoroughly awakened to the importance of a complete investigation of all subjects tending to throw the least light upon this one, than at present. This volume, then, is quite apropos, and is doubly welcome from the fidelity of execution, and the highly practical and scientific manner in which it has been prepared.

It appears from Dr. Barton's work that, previous to 1853, the sanitary condition of New Orleans had been sorely neglected; but the malignant character of the fever which decimated its population, clogged the wheels of its commerce, and changed the bustle of its busy streets into the quiet of a doomed city, aroused the attention of the city fathers, and a Sanitary Commission was appointed, whose duty it was:

"1st. To inquire into the origin and mode of transmission or propagation of the late epidemic yellow fever.

"2d. To inquire into the subject of sewerage and common drains, their applicability to the situation of our city, and their influence on health.

"3d. To inquire into the subject of quarantine, its uses and applicability here, and its influence in protecting the city from epidemic and contagious maladies; and

"4th. To make a thorough examination into the sanitary condition of the city, into all causes influencing it, in present and previous years, and to suggest the requisite sanitary measures to remove or prevent them, and into the causes of yellow fever in ports and other localities having intercourse with New Orleans."

Dr. Barton was the chairman of this Commission, and in the distribution of the subjects to be considered, the last division was given to him, and this report is the fruit of his researches. The present volume is a reprint of his paper, separated from those of the other members of the Commission, with which it was originally embodied, as presented to the City Council.

It was fortunate for the city of New Orleans that such a man was found to enter upon the laborious duties of this part of the Commission—one whose previous labors had eminently fitted him for grasping the subject in its full extent, and whose predelections were strongly interested in the pursuit of this branch of his profession. Science is greatly indebted to him for the masterly manner in which he has performed his duty, the fearlessness with which he has spoken disagreeable truths, and the boldness with which he has advanced his own views.

In his earnest search after the causes of the insalubrity of New Orleans, Dr. Barton has investigated the mortuary returns for that city, for a long series of years, and, as far as was in his power, he has accumulated every official record of the atmospherical and terrene conditions which preceded or accompanied every epidemic of cholera or yellow fever. Upon these records he has based the reasoning from which the following *postulata* have been deduced :

"1st. That a close junction and combination of the metereological and terrene conditions (referred to) is absolutely indispensable to the origination, transmission, and duration of yellow fever everywhere.

"2d. That all the terrene conditions referred to are controllable and removable by human agency, and, consequently, are separable from the meteorological conditions, at man's option, and at man's pleasure.

"3d. That the atmospherical element can be much modified and ameliorated by man's influence.

"4th. That the irresistible corollary from the *probata* are, that yellow fever is an evil, remediable and extinguishable by human agency."

It is candidly admitted that New Orleans is the sickliest place in our country, it being proved by the comparison of statistics. It is known by the reports from different cities that a little over two and a half per cent. is the average mortality in these cities, while in New Orleans it has reached nearly six per cent., and for many years was even above this figure. In view of these seartling facts, Dr. Barton asks, "If it is possible that this is a *necessary* and *inevitable* state of mortality." Many other cities have been known, at some period of their existence, to have been equally sickly, but sanitary reform, the investigation of the causes of their great mortality, and the removal of these causes, have converted them into salubrious places. A like proceeding is urged in reference to New Orleans, and an attempt is made to show, by an array of facts, that the sickly connition of that city is remediable.

In attempting this investigation in reference to the epidemic of 1853, the medical constitution of that year is spoken of; and by this is meant, "such a combination of climate and terrestrial conditions as influence the constitution of man." Each month is considered separately, and its meteorological phenomena studied and brought into apposition with the character, amount of sickness, and mortality of that month. To this section is attached a classified table, which greatly facilitates the comprehension of this part of the subject, from which we learn that "the contagious diseases had their greatest prevalence in September. The class of nervous diseases had its culminating point in August; that of the pulmonary affections again reverses this figure." The climatic peculiarities of the year are summed up in these words: "The annual *average temperature* in 1853 has been less by about two degrees, and this has occurred during the rains. It has been accounted for by Professor Blodget by the tropical character of the season, the daily curve of temperature being much less sharp during the rainy season, hence the daily mean of temperature is less than usual; this has been specially verified here. *More rain* has fallen than any year during the last thirty, excepting a fraction more in 1839. The *barometer* has been much higher than any other year I have ever noted it, and continued so until some time after the occurrence of the cholera in December. The *winds* have been nearly one-third more easterly than during the last five years, and especially during the epidemic; more northerly; not half the usual southerly winds; about one-third more of westerly winds. In this respect, what has eminently distinguished the season has been the unusual occurrence of *calms*, or stagnant state of the atmosphere, for the whole year. It has been about four times as many as usual, and for August more than eight times as many calms as the average of the last five years. The "*drying power*" has been greater for the whole year than usual, and especially for December. The *radiation* was materially different, as is usual, in yellow fever years; the highest amount existsd during the yellow fever (and this is commonly in September). This year the largest mortality occurred during August, accordingly the highest radiation occurred then. In a series of non-yellow fever years, the culminating point existed in May—vegetation probably then requires it most."

The *effect* of this medical constitution upon the inhabitants of New Orleans is the subject of another section. In this Dr. Barton separates the native population from the foreign, and endeavors in this manner to find out the "cost of acclimation." These data are also

admirably arranged in the form of a table for convenient reference. At a glance we see that no class of citizens is exempt from the fever. The native-born citizens present the least per-centage of deaths, while the foreign population, the Irish and German particularly, suffered the most; and among native Americans the mortality was in the inverse ratio as their nativity was more remote from the seat of the epidemic, though the North-Western States furnished more fuel to the fever than the North-Eastern, which fact was alleged to be owing to the difference in their habits of life.

Having discussed the "medical constitution," and shown its action upon the inhabitants of the place where it prevailed, Dr. Barton proceeds in another section to speak of the "epidemic constitution"—"of the unusual circumstances and conditions from which epidemics derive their power and spread themselves." In this connection the subject of contagion is expressly defined in its relation to epidemics, and we are glad to see that the opinion, so generally gaining ground at this time, has received additional strength by the array of facts adduced by the author. This constitution, (the epidemic constitution,) says Dr. Barton, "in the nature of things, from its wide, pervading, direct, and almost immediate influence over an extensively spread population, must be atmospherical, and we state them *en passant* now, that the admission of this principle—the admission of a wide-spread *atmospherical* element, as a necessary constituent, draws after it an important if not inevitable inference, in its being a conclusive answer to all averments to its contagious qualities!—not that a contagious disease cannot become epidemic, (although it is very rare,) but the difference is that a contagious disease never loses that quality, and epidemic disease does, directly it is removed out of the sphere of the epidemic atmosphere, which always has bounds and limits, however extensive it may be, and beyond the limits of the localising conditions which will be pointed out hereafter."

Yellow fever then is not considered contagious, as it would be carried into remote regions under all circumstances. This we know not to be the case, unless certain conditions are present which are included under the head of the "epidemic constitution," for cases of yellow fever can be carried, and are frequently carried, from place to place, without engendering disease. On the other hand, if this "epidemic constitution" exists, the approach of a least germ of disease fires the whole region in which this condition is found. So much so is this the case, that during epidemics we frequently witness all existing diseases taking on the character of the epidemic, or so changed in their phe

nomena, that by degrees the original disease is lost in the epidemic characteristics.

We cannot follow the author out in his whole line of reasoning. Suffice it to say, he announces, most emphatically, the *non-contagious* character of yellow fever. This is an important point, for in all severe epidemics, the preöccupancy of the community, as to its understanding of this question, either favors by a wide-spread panic—as was undoubtedly the case in Portsmouth and Norfolk—the rapid increase of the disease, or furnishes an additional means by which a community can erect sanitary barriers to the propagation of a dreaded evil. In the views of a contagious property we see the evidences of a supine fatalism, which will not answer for this day and generation who believe in causes, which being removed, prevent the occurrence of the effect.

The atmosphere, then, is the diligent conveyor of the fatal poison, which penetrates every locality, insinuates itself into every habitation, and from which no one can escape. In some places it locates itself, in others it passes by innocuous, and in its vagaries *appear* to follow no law, and to be subject to no regulation. Yet this is not the *fact*. Other than atmospherical conditions must be present. There must be some local condition to attract and keep the epidemic influence; this being present, we witness the deplorable fidelity to the inevitable law of epidemic.

There are two conditions—the atmospherical and localising conditions are the "two blades of the shears of fate," which are requisite for the development of an epidemic.

What are these two conditions? We are informed that they are, 1st. Meteorological; and, 2d. Terrene.

Under the first head, which is treated as a compound condition, we are brought to the valuable data compiled and noted by Dr. Barton, and in a scientific point of view, this is the most valuable portion of the work. Tables are drawn up to represent the different meteorological elements, with their degrees of existence during the whole year, as well as during the period of the epidemic, and from the observation of the phenomena here indicated, Dr. Barton was able to predict the invasion of an epidemic long before it actually appeared.

A high temperature, continuing for a certain length of time, was found essential for the production of yellow fever. Yet a temperature above 90° was too high for its development, and a degree less than 79° too low. An average temperature of about 80° was the most favorable for the production of this fever, when conjoined to the

other meteorological and terrene conditions. In this connection, it is observed, "that a temperature of above 80° is fatal to the plague, and that typhus gravior is developed between 30° to 60°. Below this fever does not occur at all." But a high degree of temperature alone cannot produce yellow fever, although continued for a long time. Other elements must be present, and the most effective among these is humidity.

"Humidity," says Dr. B., "is certainly the greatest when connected with a high temperature, and is most influential in the production of fever." Reference is made to a table in which is shown "the difference in the mortality of the same people in the healthy country of Holland and Belgium, where the average annual temperature is less than 50°, and here where it is upwards of 67°, with an average dew point of less than 43°, and here where it is near 62°, and with an average 'temperature of evaporation' of less than 47°, and here where it is 64.°" "But," continues Dr. B., "let it be distinctly understood also, that fevers do not prevail in *proportion* to the height of the dew point or amount of moisture *alone*, but that they *do not prevail without a high dew point*—that is, that a large amount of moisture with a high degree of heat is essential to the evolution or development of the high grades of fever." —— "Moisture, no doubt, is the controlling sanitary condition *at all high temperatures*." The rainy season is observed to be the sickly season in nearly all countries, but how humidity acts to favor this condition is not so easily explained. The author says, "it relaxes and prostrates the system, is a matter of common experience, that it prevents the elimination of effete and worn out excretions, that it debilitates, by excess of action, the healthy functions of the skin and lungs, every one will acknowledge who has experienced it—diminishing the decarbonising power of the atmosphere, which is always lessened as the temperature is high, air expanded and saturated with humidity. When the hygrometry changes to a dry air, a sensation of elasticity is at once experienced; when it becomes high, langour and prostration has to be endured; that our health is influenced in a corresponding degree, is fortunately now fully established. *High temperature* may produce the physical susceptibility—*moisture* may be the medium of agents from our second condition, and when they are all in excess, the malignancy of the disease will be proportionate." The dew point of yellow fever is indicated as from 70° to 80°, this fever rarely existing when it is less than 60°. The dew point of plague is supposed to be 10° less, that of typhus gravior from 35° to 45°, while that of cholera in this climate is estimated from 48° to 74°.

Solar and terrestial radiation are incidentally spoken of, but no positive evidence is given of their influence in the production of fevers. By the first is meant the temperature in the sun in contradistinction to that in the shade, the difference being the radiation; while by terrestial radiation is meant that proceeding from bodies on the earth. We feel the effects of both, and instinctively avoid exposure to either; but neither have been thoroughly investigated in their relation to disease. This Dr. B. urges upon those who have made meteorology a study, to more closely investigate particularly in reference to the etiology of disease. He has noted the radiation of the year, and has incorporated his observations in the form of a chart or table, easy to refer to at a glance.

Winds also are included among Dr. Barton's observations, and the prevalence of certain winds are particularly remarked, and it is viewed not as a coincidence but as a fact, that the most frequent winds were from the quarter which brought the most moisture with them.

Such are the meteorological conditions which have been carefully observed throughout the year by the author of this Report We commend his observations to all who are interested in the subject, and especially urge that the example may be followed by others whose duty it is to attend to the sanitary condition of cities. A series of observations, such as we find recorded in the sixth section of this Report, with the accompanying tables, would prove of the greatest value to science, and the important deductions to be drawn from them could not fail eventually to become a great public blessing.

The terrene conditions which constitute the other "blade of the shears" are, the upturning of the original soil, together with the presence of all kinds of filth. So invariably has the soil of the country been disturbed and thrown up for various purposes before each epidemic that has been observed in numerous cited localities, that it is emphatically asserted, that "the emanations arising from the upturning and exposure of the original soil in the summer season, together with filth, under certain determinate atmospheric conditions, have been the main if not the special cause of every epidemic yellow fever that has ravaged not only this city but the south-western part of the United States for more than half a century." For a severe epidemic it requires a great disturbance of the original soil, for an endemic less, and for the periodic and bilious fevers still less, so that it seems these fevers are readily convertible the one into the other, according to the concentration of the causes and the susceptibility of the individual. It is not necessary to state what constitutes filth in a great

city, the evidences of its existence are too abundant. The many odors which greet us whenever we go abroad in our streets cause us instinctively to hesitate through fear that some lurking poison is therein contained to contaminate us, or to breed some pestilential epidemic. This existing anywhere, with the upturning of the soil, the draining of marshes, receeding inundations, the presence of badly conducted cemeteries, of offensive slaughter-houses, etc., are enumerated among the localising conditions.

These conditions, it is asserted, can be remedied, although the meteorological causes are mostly beyond the influence of man, yet it is announced that the fever cannot arise without the coincidence of these two blades, the one being absent, no epidemic will be produced. It is then principally toward the terrene conditions that man is to direct his attention for the means of preventing yellow fever, as they are to a great extent under his control. The hygiene of cities should be regarded with more than ordinary care, for it is in cities that these localising conditions of pestilences accumulate, and upon their removal depend the health of the inhabitants. He is criminal who having the power to save neglects, through ignorance or design, the welfare of those whose health he is appointed to guard. The same remarks made in reference to yellow fever are applicable to all epidemic diseases, and no stronger proof is necessary of their value than the amelioration that has been wrought in the salubrity of certain localities by a studied and watchful care of their sanitary condition, all localising causes of disease being removed as far as it was practicable, and the terrene condition made amenable to the wisdom of man.

One more extract from this Report, and we shall have done with it. Dr. Barton thus sums up his views upon the subject of a *specific cause:* "The various hypotheses, based upon the supposition of a specific something, which is denominated MIASM, elminated by the decomposition of organic matter, has been shown to be so utterly untenable by its several apponents respectively, of any *one thing* possessing this multifarous and mighty power that we have for many years abandoned the whole as untenable, and that of the 'drying power' among the rest, which having nothing definite in the form of reasonable experiment to support it, or rather in defiance of it, and in the very face of experiment which utterly disprove it, that I have long come to the conclusion that there is no such *specific cause*, but believe them to be all right and all wrong, when exclusive, and that

whatever impairs the purity of the atmosphere is *pro tanto* for the time being, the *miasm*, or rather the *mal-aria*."

The following deductions have been drawn from the careful observations of all these facts by Dr. Barton, and presented in the prefatory remarks :

"1st. That the epidemic yellow fever has never occurred here (at its commencement) but during a high dew point, (the minimum being upwards of 74°.)

"2d. That it has always ceased, as an epidemic, before it descended as low as 58°.

"3d. That at the temperatures of the dew point below these, sporadic or endemic yellow fever may occur, but it is not known to have existed here with any certainty as an epidemic, when the dew point differed from that above stated.

"4th. That what is miscalled the CONTAGION OF YELLOW FEVER, or its liability to spread, exists only with the first condition.

"5th. That the main controlling influence in all unhealthy situations is MOISTURE, whether in cities, towns, countries, ships, or dwellings, although filth is deemed correlative.

"6th. That MALARIA is not any one specific thing, but that all impurities of the air, and organic matter in decomposition, are liable to influence injuriously the organism, and particularly the worn out excreta of human beings may be so denominated, and are particularly incompatible with healthy action, and when in combination with the meteorological condition may produce fever."

We have endeavored to make a faithful analysis of this Report, and have tried to give in as few words as possible the train of reasoning of the author. We have received much pleasure from the reading of the paper, and while we are constrained to add our convictions to most of the arguments advanced therein, we cannot say that we dissent from any. If greater care had been taken in the syntactical arrangement, which in many places is so faulty, that the meaning of the author is thereby rendered very vague, the value of the work would have been greatly enhanced, if not in a strictly scientific point of view, certainly in its literary character. J. H. D.

Drake's Systematic Treatise, Historical, Etiological, and Practical, on the Principal Diseases of the Interior Valley of North America. Second series. Edited by S. HANBURY SMITH, M. D., and F. G. SMITH, M. D. Philadelphia: Lippincott, Grambo & Co., Publishers.

This work, now complete in two series, is intended to embrace the topography of this great valley, and its principal diseases. It covers a large field, and its voluminousness is remarkable, when the amount of labor required even to write such a book is considered. If the author were entitled to credit for nothing else, his industry must excite admiration.

It is well known that this distinguished professor was possessed of a most indomitable energy, and a mind well calculated to grapple with difficulties and to overcome them; indeed, he rather courted opposition, which seemed to nerve him to greater exertion. Such traits of character well fitted him for the great task he assumed.

Circumstances were likewise propitious to his undertaking. Besides a residence of nearly half a century, as a practitioner, in this valley, he travelled extensively in search of facts, and studied with characteristic zeal the modifications of disease under the various influences of climate and locality.

The first series of this work was published in Cincinnati in 1850, previous to the death of the author. The profession are familiar with its contents, the most valuable being, we conceive, the topographical and climatic etiology. This comprises seven hundred pages of the volume, and its value entitles it to the space. In it we have the geography, topography, and the features of the whole interior Valley of the United States, Mexico, &c., and also a part of British America, with the climatic changes and meteorology of this vast extent of territory.

His description of the habits, modes of living, and characteristics of the inhabitants, add much to its interest. It is an embodiment of facts and scientific observations, valuable not only to the medical observer, but to the scientific man and others out of the profession. For the use of the general reader it would be well to separate this part, making one volume of it, and putting the remainder in one or more volumes. Science would be aided by it, and it would save much labor to the compiler who wishes to collect facts of this nature. We observe that all which follows this part in the first series, is

republished in the second, perhaps with this division in view on the publication of another edition.

The second series begins with autumnal fever ; and with regard to Dr. Drake's views on the causes of this *disease* we cannot forbear saying some things.

He lays down three influences as necessary to the production of the efficient cause of the fever. These are heat, moisture, and the decomposition of animal and vegetable matter. In this we agree with him, but cannot sustain his belief as to the nature of that cause thus produced. We acknowledge that heat and moisture alone are not sufficient to produce the disease, his argument on this point being conclusive. Not so, however, that in favor of the animalcular theory.

He says, "On the whole, therefore, I must repeat that the conditions under which our autumnal fever appears are sufficiently clear to observation ; the existence of a special gaseous agent resulting from them remains to be proved." We think just so about his animalcular theory. His arguments are mainly based upon analogy between the visible and invisible animal world as to poison and these may be true. But those used to establish the condition necessary for the production and diffusion of the animalculæ, and their absorption into the system, will apply as well in most of them to the conditions necessary for the production, &c., of the malarial or gaseous poison ; and, that it may be that the gas or gases are produced, he admits as follows : "But it can be said that, in the endless variety of new compounds which Nature may form out of the ultimate elements of plants and animals, there may be many which have not yet been detected, and that some one of these is the efficient cause of the fever, and this cannot be denied." And he gives the following "five facts" in support of this theory, which facts cannot well be set aside in their bearings upon this point.

He says : "The facts which have been cited teach us that there is, mingled with the soil or resting upon it, a great amount and endless variety of organic matter, both animal and vegetable, to the decomposition of which, and to the resulting new compounds the malarialists look for the efficient cause of autumnal fever. In doing this, special stress may, with great propriety, be laid on a few unquestionable facts :"

"1. That, all other circumstances being equal, the fever prevails most where the organic matter is most abundant, in or resting on the soil.

"2. That, where the surface is not moist enough to favor the decomposition of organic matter, the fever has but little prevalence.

"3. That a temperature of sixty degrees Fahrenheit, or above, is necessary to fermentation and putrefaction, and that the fever ceases in going North, where we reach a summer temperature below that degree.

"4. That particular localities have experienced the fever, in an epidemic form, where a surface abounding in organic matter has been newly exposed to the action of the summer sun.

"5. That under long cultivation, which exhausts the organic matter of the soil, and prevents its accumulation on the surface, the fever almost ceases to appear."

But he uses these facts in a different way, to establish the animalcular theory, and he makes a most plausible one of it, to a superficial reader, but, we think, does not use them as well as he could, to establish the malarial hypothesis.

We wish to show what we consider to be a contradiction. In his twelfth section, under the head of the vegeto-animalcular theory, he says, "It is well known that the long-continued cultivation of the soil, and the building of towns and cities, diminishes the prevalence of the fever. Now this cultivation implies the drying up of a great deal of surface water, the burning up of the natural vegetation, and the gradual decomposition of that which has been mingled with the soil. Summer crops, as those of wheat and hay, are also removed, and not suffered, like the natural herbage, to accumulate on the surface; and those of Autumn are either removed, or in the Winter consumed, to prepare the fields for new planting. Thus the food of microscopic beings is destroyed, and their reproduction arrested." Compare with this, section seven, under the malarial hypothesis. "It is well known that a family may settle down in the forest, and cultivating but a small spot, remain free from fever; but when several families arrive, and an extensive breaking up of the soil takes place, it immediately begins to prevail, although the heat and moisture are not thereby increased." In the former it will be seen that he says that cultivation removes the food for animalculæ, and in the latter that cultivation produces the efficient cause, which he says is animalculæ. If in one case the food is destroyed, it must of necessity be in the other, at least to some extent; and if the fever was not present at first, how could it appear after the conditions which produce its cause were removed.

But we refer the reader to the result of the labors and researches of many of the greatest men in Europe on this subject, which go to refute and explode this theory of animalcular causes of disease.

The work, as a whole, is in many respects a very valuable one. We object to its voluminousness as not proper in a work of this kind. The book would have been more generally read, and more useful as a book of reference, had its author condensed what he had to say of the various diseases into a smaller space ; for a systematic treatise on each disease spoken of would not be expected in a work of this character.

It is to be regretted that the life of the lamented author had not been spared to complete his work, for doubtless he would have condensed and re-arranged the abundance of material into a smaller compass. D.

PART III. — PROCEEDINGS OF SOCIETIES.

NEW YORK PATHOLOGICAL SOCIETY.

October 10. *Dr. Markoe* exhibited a specimen of *fracture of the cervix femoris*, taken from a girl nine years of age, brought into the New York Hospital, with injuries received in a fall from a sixth story window. Attention was specially directed to the left hip. The limb was shortened half an inch, knee slightly flexed, and the toe inclined to remain erected. On rotation, the trochanter moves on a very short radius ; and on drawing down the limb and making rotation, crepitus was abundant and distinct. The point of the trochanter followed the movements of the shaft, showing it not to be detached. Taken in connection with the manner of the accident, and the age of the patient, these symptoms seemed to indicate an extra-capsular fracture of the neck of the femur. It became a matter of some interest to ascertain whether this case would throw any light upon the pathological law, most clearly elucidated by Robert William Smith of Dublin, that, in extra-capsular fracture of the cervix femoris, there is always a wedge action of the upper upon the lower fragment, whereby the trochanter is split more or less completely into several fragments. She died the next day from the injuries sustained.

Post-mortem.—On inspection, a fracture is observed, just external to the capsule, separating the neck from the femur. The specimen also shows clearly another fracture, separating the point of the trochanter from the shaft ; a separation which, when we look sidewise

at the specimen, is evidenly produced by the wedge-action alluded to. This, however, was not at first so readily seen, because the aponeurotic covering of the bone was not entirely lacerated, thus keeping the fragment, in connection with the shaft, and preventing this second fracture from being discovered before death. It is particularly interesting to discover that this separation has taken place at the line of junction of the epiphysis, the upper fragment being, in fact, the epiphysis, only partly ossified. It is the youngest case of fracture of cervix femoris that he has ever observed.

Dr. Willard Parker presented a specimen of *hypertrophy* of the *breast*, removed from a woman forty-eight years of age, of good constitution, and the mother of three children. Ten years since the tumor was first observed; it slowly increased, without pain or any uneasiness. In five years it attained the size of the fist, and remained so until February, when it commenced rapidly increasing, being however still free from pain, and only inconvenient from its size and weight. He did not regard it as malignant, but advised its removal, fearing it might possibly become cancerous. The lymphatic glands in its vicinity were not enlarged. The tumor weighed four pounds. On examination by the microscope, by Dr. J. C. Dalton, no evidence of cancer was observed. It was principally composed of the milk tubes in a compressed state, but little fibrinous tissue, and abundant amorphous, granular matter. Dr. Parker remarked it was an uncommon form of disease; it was named *lobulated hypertrophy* of the gland by Beckett, and *chronic inflammation* of the *breast* by Cooper. The present is the third case which has come under his observation, and all had been successfully removed.

Dr. A. Clark observed, that the subject of a change in character from a benign to a malignant tumor had before received the consideration of the Society, but no facts had been presented satisfactory to his mind, and he would make the inquiry of the surgeons here to-night, whether any of them were familiar with an instance in which a non-malignant tumor assumed a malignant character by change of structure.

Dr. Metcalfe remarked that instances are recorded by Syme of the so-called recurrent fibroid tumors, which have been removed, when benign, and in the place of removal, after several operations, the returned growth was unequivocally malignant, became ulcerated and fungoid.

Dr. Clark said the fibroid character of tumors was too unsettled to pronounce on their precise nature. He was in doubt if degenera-

tion ever occurs, or in other words, fibrinous deposits become cancerous.

Dr. Parker, in reply, instanced three cases with which he was familiar. One of them, at the time he was consulted, nineteen years ago, presented points of similarity, in its history and progress, to the tumor now before the Society. He advised the patient not to interfere with the tumor. Seven years after he removed it, and it was then pronounced undoubtedly cancerous in character.

The discussion was continued some time longer, the opinions of members being generally favorable to the idea of degeneration of fibrous into cancerous deposits.

Dr. J. C. Dalton presented a specimen of *intestinal calculus*, obtained from a patient who died of chronic dysentery. For two years he was, at times, subject to pain over the region of the liver. Extensive ulceration of the large intestines existed. No alteration of the mucous membrane of the small intestines was observed, until about five feet from the ileo-cœcal valve, where there was a dilatation. In this pouch were four calculi; there was no other contraction, and no inflammation. They present a smooth surface, resembling cholesterin, but on being tested, did not act like that substance.

PART IV.—CHRONICLE OF MEDICAL PROGRESS.

The Lake Superior Region Favorable to Health and Longevity. By W. B. Herrick, M. D.

In order to arrive at correct conclusions upon the influence of the climate of any region upon health, it is all important that certain Meteorological phenomena, such as the temperature and barometrical changes, the humidity, density, purity, and other conditions of the atmosphere be closely and accurately observed; and, that the separate and combined influences in modifying vital action, both in health and disease be thoroughly investigated and determined.

A comparison of the following observations made at Fort Wilkins, Keweenah Point, on Lake Superior, and at Fort Snelling, on the Mississippi, shows, most conclusively, how great are the modifying

influences of the large bodies of water in the region of Lake Superior, in tempering its climate :

	Latitude.	Mean Temperature.	Winter.	Summer.
Fort Wilkins,	47°30′	41°46′	24°83′	58°61′
Fort Snelling,	44°53′	44°8′	16°3′	71°06′
Extremes at Fort Wilkins,			9°—	93°
" " Snelling,			23°—	115°

By the above table it will been seen that at Fort Wilkins on Lake Superior, nearly three degrees north of Fort Snelling on the Mississippi, the mean temperature is nearly the same, but that it is 8°53′ colder in winter and 13°9′ warmer in summer on the banks of the Mississippi than on the borders of Lake Superior, and that at Fort Wilkins the thermometer did not at any one time fall lower in winter than 9° below, or rise higher in summer than 93° above ; yet at Fort Snelling, it ranged from 23° below in winter, and 115° above zero in summer.

This remarkable difference in the range of the thermometer at two points, nearly in the same latitude, and about the same distance from the coast to the Atlantic, is produced by several causes, the most important of which is, doubtless, that resulting from the fact that but few, if any, bodies of water exist to modify the temperature of the atmosphere of the vast prairies bordering upon and extending hundreds of miles in every direction from the Mississippi, whilst on the contrary, numerous and vast bodies of fresh water abound everywhere in, and surround in every direction the Lake Superior region, cooling the atmosphere by contact, and the absorption of heat by evaporation in summer, and warming it in winter by the liberation of latent heat, during the congelation of vapor and water to form vast bodies of snow and ice. Another reason, not referred to before by writers so far as we know, modifying the temperature of this region, results, doubtless, from the fact, that in the line extending from Lake Superior to the Pacific, nearly in the course of Stevens' Survey, there are but slight if any mountain barriers to obstruct the free passage of atmospheric currents from the equable and congenial climate of Washington Territory.

Barometric changes as well as those of temperature, influence doubtless the vital functions of animals, to such an extent at least, as to require to be taken into consideration in all investigations regarding the influence of climate upon health. We are not able at this time to avail ourselves of statistics, if any exist, by which to show variations in the pressure of the atmosphere in this region ;

yet there are certain curious phenomena presented in the sudden rise and fall of water in our lakes, and especially in Lake Superior, which to my mind can be most rationally explained, by supposing that they are the result of varying amounts of atmospheric pressure, acting upon their surfaces at varied times and in different localities.

Concerning these remarkable phenomena, Messrs. Foster and Whitney, in their geological report, published in 1850, make the following remarks:

"Lake Superior possesses all of the sublimity of the ocean. In gazing on its surface, whether stretched out like a vast mirror, reflecting the varying tints of the sky, or ruffled by gently curling waves, or lashed by the fury of the storm, the beholder is alike impressed with a feeling of the grand and the infinite. During a residence of several summers on its borders, our attention has been directed to the fluctuations in the level of its waters; and, while we have failed to detect any ebb and flow corresponding with the tidal action, we have, on the other hand, noticed certain extraordinary swells which appear to be independent of the action of the sun and moon.

"These risings attracted the attention of the earliest voyagers and they have not failed to record their observations with a minuteness worthy of commendation.

"In the Relation for 1670–71, Dablon uses the following language: 'As to the tides, it is difficult to lay down any correct rule. At one time we have found the motion of the waters to be regular, and at others extremely fluctuating. We have noticed, however, that at full moon and new moon the tides change once a day for eight or ten days, while, during the remaining time, there is hardly any change perceptible. Three things are remarkable: first, that the currents set almost constantly in one direction, viz.: towards lake Michigan, which does not prevent their ordinary rise and fall; second, that they almost invariably set *against* the wind—sometimes with as much force as the tides at Quebec—and we have seen ice moving *against* the wind as fast as boats under full sail; third, that among these currents we have discovered the emission of a quantity of water which seems to spring up from the bottom!'"

Dablon, the writer last quoted, attempts to account in part for these changes by assuming that there are underground passages leading from Lake Superior to the lower lakes. Such a supposition, which for various reasons the writer considers untenable, would favor the theory that these changes are produced in whole, or in part, by varying weight of the atmosphere at different times and localities.

The following quotation from the work referred to above, is, as it seems to the writer, nearly conclusive in the support of this view:

"Professor Mather, who observed the barometer at Copper

Harbor during the prevalence of one of these fluctuations, has published the results of his observations. He remarks: 'As a general thing, fluctuations in the barometer accompanied the fluctuations in the level of the water; but sometimes the water level varied rapidly in the harbor, while no such variations occurred in the barometer at the place of observation. The variations in the level of the water may be caused by varied barometric pressure of the air on the water, either at the place of observation or at some distant points. A local increased pressure of the atmosphere at the place of observation would lower the water level where there is a wide expanse of water, or a diminished pressure under the same circumstances would cause the water to rise above its usual level.'"

Admitting the correctness of this view, and it would require but a few observations made with the proper instruments on the shores of this or any other lake to test its truth or fallacy, and we have the reciprocal action of the water below upon the atmosphere above, acting in such a manner as to modify the pressure of the atmosphere, making it greater or less according as the water is higher or lower; thus making the action of the lakes in this region important agents to modify barometric pressure as well as temperature; and additional contributors to health and longevity, by preventing, measurably, those excessive barometric changes so detrimental to life and health.

The hydrometric condition of the atmosphere of this Lake Superior region, is, so far as we know, a subject still waiting for and requiring investigation, hence we will state briefly what are some of its geographical and geological features, which must, in conformity with well known natural laws, have the greatest influence in modifying the hydrometric condition of the atmosphere. The numerous bodies of water which surround Lake Superior in every direction, added to its own broad expanse, present an evaporating surface to the sun and air, such as must facilitate to a remarkable degree the accumulation of watery vapor in the atmosphere of this region, yet there are good reasons for believing, as seems to be the general impression of the inhabitants here, that extremes of humidity as well as dryness, seldom, if ever, occur. Among the most important modifying influences affecting atmospheric humidity is, doubtless, the character of the country bordering upon the coast. Upon this subject Prof. Agassiz remarks as follows:

"The general shape of Lake Superior is that of a crescent. But it would be a great mistake to suppose it bounded by curved lines. Its shores are combinations of successive sets of straight parallel lines, determined in each instance by a peculiar system of trap-dykes.

These dykes have five general directions, and the outlines of the shores are determined by their combinations."

The mountains and highlands of this region are not elevated to a height sufficient to lower to any great extent the temperature of the atmosphere passing over them, yet their broken and irregular outlines as well as the angularity of their junction one with another constitute numerous projecting barriers imperfectly separated by corresponding depressions, by which all atmospheric currents are broken up and changed in their direction to such an extent that the unfortunate coaster frequently finds himself suddenly checked in his onward course, and his sail flapping between two atmospheric currents, coming from opposite points of the compass, or what is less common, perhaps he finds himself suddenly drenched by rain or enveloped in fog resulting from the sudden condensation of watery vapor, previously suspended in one or the other of two atmospheric currents, uncongenial both in humidity and temperature, which have suddenly and unexpectedly met in their passage to and from different elevations of old Superior's castle-walled and terraced coast. In view of the facts here presented, it is evident that in an atmosphere in which the currents are so varied and unlike in direction, temperature and humidity, no great excess of watery vapor can be accumulated or remain suspended for any length of time, without being affected by one or the other of these numerous condensing causes.

Another influence which is very efficient, doubtless, as a preventive to the excessive accumulation of watery vapor in the atmosphere of this region, is the remarkably low temperature of the water of the lake. An accurate and careful experimenter states that he found the temperature of the water of Lake Superior, during the summer, a fathom or two below the surface, but a few degrees above the freezing point.

This low temperature of the water has an important influence upon the atmosphere both in directing its current and modifying its humidity. A well known atmospheric phenomena of this region, is the land breeze, caused doubtless by difference of temperature in the atmosphere over the water and upon the surrounding highlands, by which an almost constantly recurring nightly current is produced of the more dense air of the mountains, towards that which is comparatively rare covering the lake.

With regard to the purity of the Lake Superior atmosphere, it may be stated in brief, that the sources from which the deleterious

gases of regions less favored in this respect, originate, do not exist in this region.

Its geological formations being as they are for the most part primitive ; and the comparatively low temperature of the atmosphere, are circumstances which preclude the possibility of a generation of gases from decomposing organic or other matter sufficient to change it in any perceptible degree from its normal constitution.

Its purity is also manifest in its invigorating effects upon man and other animals ; as also in its remarkable transparency, manifested in the extent of the field of vision, and the softened translucence of a Lake Superior sky.

The above facts being such only, as a recently inhabited country affords, are necessarily few in number, and imperfectly classified, yet the writer believes they are sufficient to justify the following conclusions, in regard to the temperature, humidity, and purity of the atmosphere of this country. First, as regards temperature, it is evident that the average amount of cold during the year, and the extremes of heat in summer, and of cold in winter, are less, than in any other region in this country, east of the Rocky Mountains ; in the same latitude either east or west.

Secondly, the facts and circumstances which have been mentioned, as having the most influence in determining the amount of pressure exerted by the atmosphere at different times and places, are such as to indicate that barometric changes are never excessive.

Thirdly, it is evident that the vast bodies of water in this region, furnish such a widely extended evaporating surface, as to favor a suspension, in the atmosphere of an excess of watery vapor ; yet the causes which have a tendency to produce condensation, are so varied and numerous as to effectually prevent frequent or long continued excessive humidity.

In conclusion, we will simply state, that it must be apparent to all, that no causes favorable to the production of impurities in the atmosphere of this region exist, therefore no argument is required upon this point.

The inevitable conclusions to be drawn from the facts and reasons thus briefly and hastily adduced, are that the region of Lake Superior is one highly favorable to the preservation of health and long continuance of life ; being as it is, well adapted, both geographically and geologically to the preservation if not to the generation of animals ; and having as it has, a pure atmosphere, in which the thermometrical, barometrical, and hydrometrical changes are never excessive.—*N. W. Med. Journal.*

Paregoric Powder. By JOHN P. LITTLE, M.D., of Richmond City.

I have used for some time past a preparation of paregoric in the state of powder, instead of always using it as a liquid. It is nothing more than the solid ingredients, which are used in making the camphorated tincture of opium, reduced to a very fine powder, and mixed intimately with prepared chalk and sugar.

Sometimes I have rubbed up oil of anise with the chalk, thus making the powder more closely to resemble the liquid paregoric. More commonly, however, I have added a drachm of powdered cinnamon instead.

This is the prescription as commonly prepared: ℞ Pulv. opii, ʒi; pulv. cinnamon, ʒi; acid benz. ʒi; gum camphor, ℈ij; sac. alb. ʒiij; cretæ prep. ʒlv and ℈i. M. Fit. Pulv.

There will be one grain of opium in every drachm of the above powder—that is to say, one drachm of this preparation will be equal in anodyne properties to about half an ounce of paregoric, and one grain of the powder will represent four minims of the liquid. By bearing in mind, then, this proportion of *one to four*, the practitioner can easily proportion his dose to the character of the disease and the peculiarities of the patient.

This powder easily mixes with water, and owing to the quantity of sugar it contains, is readily taken by the child.

I question whether it would not be well to increase the quantity of benzoic acid in the above preparation. It acts upon the mucous membrane of the stomach and lungs, and has a very happy effect on the kidneys and urinary secretion.

This powder may be employed in all cases requiring the use of a mild anodyne, or wherever paregoric is commonly prescribed; and especially in those cases, frequently met with among children, where the stimulating properties of the alcohol render the use of the tincture of doubtful advantage.

The chalk is beneficial by its antacid property; and as will be at once seen, the compound of opium with chalk and an aromatic, forms a valuable medicine for the treatment of infantile diarrhœa.

It is in this class of cases especially that I have made use of it, combining it with calomel, or adding a larger proportion of chalk. I have found it one of the most efficient remedies ever used by me in the treatment of those troublesome diseases called summer complaints.

I prefer the use of it in place of the paregoric tincture, where it is

necessary to soothe a child to slumber, who is suffering in cutting teeth, although it is necessary here to guard against any tendency to constipation, by adding rhubarb to the powder, or administering small doses of castor oil.

Indeed it may be added to many of the medicines which we are accustomed to give to young children, being used for instance as a carminative to render more easy the action of a purgative.

I have used it also for adults, in diarrhœa, &c., or wherever an anodyne antacid and carminative were required.

An objection to the use of liquid paregoric, that its strength may be increased to a very dangerous degree by the evaporation of the alcohol with which it is made, cannot of course lie against this preparation.

And if it be urged that paregoric, in powder, cannot be so conveniently given as paregoric in liquid, (the one having to be weighed and the other being merely dropped), it might be answered, that parents and nurses are too much in the habit of dosing young infants with this dangerous liquid, and that it is far better for the administration of opiates to remain in the hands of those who are qualified to use them.

Paregoric, Godfrey's cordial, and all this class of anodynes, have slain more children than the wars of hostile nations have destroyed of men.

In preparing this powder, it is scarcely necessary to state, that great care should be taken to see that the ingredients be finely powdered and thoroughly mixed.—*Stethoscope.*

Brompton County Court.—Calling in a Second Medical Man.—Important Decision. CLARK *v.* MARTIN.

The plaintiff, a surgeon of Notting-hill, in this action, sought to recover the sum of £2 2s. of the defendant, who keeps a beer-house in the same neighborhood. The circumstances are of more than ordinary interest to the profession and the public. Mr. Bradley appeared for the defendant.

The plaintiff stated that the defendant's wife engaged him to attend her in her confinement; that upon examining her, he discovered that there would be some danger and difficulty in her accouchement, and

upon been called in he found the birth was a foot-presentation, and as manual exertions on his part were necessary to assist the labor, he commenced operations. The patient was, however, so strong and violent that several women and himself were unable to hold her, and in her struggles she kicked his arm, and detached some portion of the child. He apprized the defendant and his wife that it was positively necessary some eminent accoucheur should be called in to assist ; and witness sent his servant for Dr. Murphy, who came, and as defendant refused to pay that gentleman, witness had paid him £1 1s. for his services. He now claimed £1 1s. for his own services, and the £1 1s. he paid to Dr. Murphy.

Mr. Bradley said the plaintiff had acted unskilfully and negligently ; and if he proved these allegations the plaintiff was not entitled to recover. With regard to the £1 1s. charged for Dr. Murphy's assistance, it was clear that medical men had no more right to call in assistance than a lawyer have when in a difficult case, unless they do so at their own cost. If medical men were allowed to call in whom they pleased, and to charge their patients for such extra advice or assistance, there would be no foreseeing how many doctors would be at an accouchment. Mr. Bradley called—

Mrs. Martin, who said her charge of negligence was, that when Mr. Clark was sent for he did not come for a long time ; and after he had performed the operation, he left the head of the child, which had become detached, to come by itself, and left her all night in this state. She considered it was his unskilfulness that made him wish for further assistance ; and when he said he must call in some one else, she distinctly told him that if he did so she could not pay for it.

Mr. Clark said that had he remained with his patient all night, his services or presence would have been uncalled for. From the state the patient was in, it was advisable to let Nature have its course ; and after giving Mrs. Martin a composing draught, he left her to attend another patient, who had a like difficult labor. He had had a most extensive practice in such cases, and there was not a shadow of pretence to say that the child could have been saved, or that he had acted unskilfully or negligently.

The learned Judge (J. L. Adolphus, Esq.), said that grave charges had been made without being established. He considered the plaintiff had done his best, and what was proper, and was sorry he could not allow him the £1 1s. he had paid to Dr. Murphy. Verdict for £1 1s. and costs.—*Dub. Med. Press.*

Researches upon the Effects of Cauterization of the Chest in Asphyxia and other kinds of apparent Accidental Death. By Dr. Fouere. (Translated by Dr. Thomassin for the Monthly.)

Many methods have been employed for asphyxia, which results from the introduction into the chest of irrespirable gases, or from a mechanical stoppage of the respiration. These means, borrowed from the most contradictory ideas, have been variously appreciated and their absolute or comparative value is far from being fixed

However, the cases of asphyxia are among those which demand a sure and rapid decision. Some minutes will be often sufficient to decide on life or death, and irresolute groping may, by losing time, let a last chance of safety escape.

I thought it would be a profitable work, to submit to the control of experiment the methods used, to appreciate their degree of usefulness, and to establish between them a subordination founded upon facts. It is the result of these experiments that I have the honor of presenting to the Academy.

First, I must say that I have laid aside all the methods which require considerable apparatus, and which are of difficult maintenance; all those for which the hand of an experienced operator is indispensable; and, lastly, all those which, under a supposed theoretical advantage, offer positive danger.

It seemed to me that the first condition that a method fit to be used in asphyxia ought to fulfil was to be simple enough for the material elements of its execution to be met with everywhere, and of such harmlessness that it might be committed to unskilful attendants without apprehension. The number of subjects of experiment is thus singularly reduced.

The animals that I have asphyxiated were shut up in a little room, arranged in such a way as to render observation of each movement easy, and they were, as much as possible, in conditions identical with those in which individuals are who perish by the vapor of charcoal. I have followed the asphyxia gradually from the first uneasiness to death. By removing the animals experimented upon from the influence of the asphyxiating atmosphere into the open air, at different periods, I had the measure of the curability in degrees more or less advanced. By applying to each of these periods customary succor, I had the measure of their relative efficacy, and, at the same time of their action compared to the simple efforts of nature.

These first experiments have led me to rather unsatisfactory con-

clusions; they have confirmed me in the often stated opinion, that the means proper to re-establish heat, and to exercise upon the nervous system a quick re-action, succeed in the incomplete asphyxia, on the condition of being continued with great perseverance; they have shown me, in the most positive manner, that these means are almost always impotent when the asphyxia is carried far enough to render death imminent.

About this time a case of the most serious asphyxia was presented to my observation. After having used, without result, the proceedings which experience had proved to me inefficacious, I had recourse to a method of cauterization not yet practised, and which had the effect of recalling the patient to life. Here is the case.

On the 4th of February, 1855, a young girl had asphyxiated herself voluntarily. I found her inanimate, pale, insensible; her respiration was hardly perceptible, the throbbings of the heart very weak and heard only at rare intervals; a total absence of pulsation in the whole body.

Bleeding, cold affusions, the tittilation of the nostrils with a pen, the irritation of the respiratory passages by sulphurous vapor, sinapisms, flagellation, artificial respiration, all were useless. I applied nearly red-hot handirons upon the inferior limbs. Profound sloughs were produced, but the patient did not move. Two hours had elapsed, having exhausted, without any success, all the proceedings ordinarily used. Losing nearly all hope, I cauterized the upper part of the chest with the point of the iron. I then successively touched the lower part of the clavicle, the armpits, and the intercostal space. She remained at first immovable, but after two minutes, the fingers were stretched, the hands, hitherto applied against the body, opened; soon they were brought forward, and agitated as if to repulse something. Slight as was this success, it seemed to me significant. Believing her saved, I stopped the cauterizations. Some moments after she had fallen off into the same state as before. I began again. The result was still more striking. She made a movement, opened her eyes, raised her head, and uttered a low cry; however, having again stopped, I saw her again sunk in a state quite as serious as that from which I had just aroused her. I had recourse a third time to the red-hot iron, and continued to cauterize her in spite of her resistance, which I had the happiness of seeing soon become energetic. When I was assured that the sensibility was awakened definitively, although still persisting in the cauterization, I flagellated her with a whip with several lashes. It was seven o'clock in the

evening, and, exhausted by fatigue, I was forced to stop; but M. Dourlans, the Commissary of Police, who had been a witness to these manœuvres, understanding of what importance it was for the salvation of this woman not to interrupt her treatment for an instant, ordered a sergeant of police to remain near her, and with instructions to act as he had seen me several times, if she slumbered. In the night I was recalled to her; and it was only thirty-eight hours after the accident that she had entirely recovered, having no recollection of the burns or blows.

Encouraged by such notable success, I resumed new experiments, in order to ascertain if the results obtained were owing to accidental conditions, or if the means that I had employed were of a nature to constitute a mode applicable to all serious cases. These experiments have led me to the most conclusive fact. They allow me above all to establish the following propositions:

Firstly—After asphyxia the cauterization of the thorax constantly provokes respiration, so long as a shadow of breath remains. I have seen it recall life in serious cases of apparent death. I have never succeeded, it is true, in animals whose heart had entirely ceased to beat, but I have reanimated some in which the movements of this organ had fallen relatively to the normal state in the proportion of 3 to 7, a state which, when it coincides with an extreme weakness, is that nearest to death.

Secondly—That the sensibility dies away from the extremities of the body to the centre, it returns, on the contrary, from the central parts to the extremities very often; and, as it has been seen in the preceding experiments, the red-hot iron may remain during an unlimited time upon the inferior parts without giving rise to the least sign of sensibility, whilst its application for some seconds upon the upper region of the thorax suffice to soon provoke energetic movements. In the case of Miss G., this peculiarity was the more remarkable, as after four or five applications of the iron the movements of the thorax were displayed, and it was only when they had acquired some amplitude that the arms and legs became sensible. We cannot insist too much upon the importance of this fact, for it demonstrates all the inutility of the efforts directed towards the inferior extremities in the case of asphyxia, and in all other kinds of apparent accidental death, and, above all, the advantage that would be found, on the contrary, in acting directly upon the only excitable region remaining.

Thirdly—The aptitude to feel the pain is void as long as the subject remains exposed to the cause compromising his life.

Fourthly—Asphyxia has a great tendency to re-appear, even when it seems to be entirely dissipated; often death surprises the individuals in the very moment they were thought to be out of danger.

In the history of asphyxia, similar cases are not wanting; consequently, in the serious cases, it is important to persist in the treatment, and to exercise the most attentive inspection upon the patients, even for a long time after their complete recovery. A dog has offered to me, on this occasion, a most remarkable example.

It is never a manifestation of pain which appears as the first symptom of cauterization of the chest, but a series of muscular movements, the consequence of which is, finally, the widening of the thorax. The signs of pain are evident only when the respiration and circulation are re-established, at least to a certain point. It seems, in short, that in these circumstances the organism requires a determined quantity of exertion in order to be roused from its state of torpor.

We can never affirm that an individual would have died in a given circumstance, if heat or such remedies had not been applied to him; but without prejudging the absolute value of a treatment, we can always, by reason of the immediate effects, admit that it will be more or less powerful in such and such conditions.

After having recognized in so positive a manner the efficacy of the cauterization in asphyxia, I have asked myself if its use could not be extended to all the cases where death is caused by an accidental lesion of the respiratory functions, such as strangulation, hanging smothering under a fall of earth, in crowds, submersion, &c. Finally, I have studied their effects in some cases of poisonings, particularly those owing to strong doses of opium and chloroform. These experiments, which have left me no doubt, would lose, I believe, in being reported only in a summary and incomplete manner, but they will be published in another work. I will quote only one example.

I have stated the power of cauterization in case of apparent death by strangulation. I wished to know what was to be expected from it in those cases in which life is suddenly compromised by the fact of a violent and invincible compression of the chest, as it so often happens in the falling of walls or where individuals are crushed somehow under the fall of earth or in a crowd.

Case.—I chose a very large bull-dog. I placed a beam upon each side of all the length of the trunk, and by two strong ropes provided with a tourniquet, I was able to carry the constriction to the highest degree. The animal, it may be presumed, defended itself at

first with energy; it threw itself upon me, bounded into the air, and precipitated itself against the wall, and, in spite of his muzzle, uttered a low growl, during thirty minutes. Alternately it struggled with fury or remained dejected. At last it fell and rose no more. A great deal of blood dropped from the nostrils, its eyes remained quite open, and a slight movement of the chest indicated alone from time to time that a breath of existence remained. The anæsthesy was complete, and permitted me to leave a red hot iron upon different parts of the body, and even, when I applied this instrument upon the chest, more than a minute passed before a sign of sensibility appeared; then some vague contractions were seen, they became stronger in proportion as I persisted. Soon the ribs were displaced, the thoracic parieties moved, and all the respiration emerged slowly from the profound annihilation into which it had fallen.

In none of the experiments was I as much as in this last able to state the power of cauterization. The animal recovered only progressively, and with effort. Each time that I applied the red-hot iron upon its chest, the respiration was accelerated. Often even it moaned, but remained immovable. Evidently the dog had the sensation but not the feeling of the pain. At last it made some efforts to escape the pain, and recovered so well, that on the following night it snapped the rope, and, breaking a pane of glass, escaped through the window.

We must say, nothing gives a better idea of the confusion of this state than the bearing of the animal cauterized; it struggles, is agitated, it screams, and often it throws itself upon the red-hot iron, sometimes seizes it with its teeth, and bites it fiercely.

The succession of the observed phenomena gives a good account of the mode of action of the cauterizations. In applying on the limbs the most energetic actual cautery, the slightest reaction is not determined, in applying it to the chest, the life is reanimated, all the power of the remedy depends, therefore, upon its localization finally, by an advantage which cannot be too much appreciated here.

Nothing is more simple than the execution of the treatment; it does not require any medical knowledge, courage and perseverance suffice.

A bit of metal is heated thoroughly—its shape is immaterial; it suffices that there be a thin edge and a smooth surface—a hand-iron, a shovel, a hammer, &c. In default even of these objects, lighted charcoal may be applied, as by M. Confreron.

The cauterizations are practised on the upper part of the chest,

under the arm-pits, upon the region of the four or five first ribs, and in the space which separates them, alternately on the right and on the left side. They succeed each other rapidly and without interval. In order to prove the sensibility, the edge or the point of the instrument is slightly applied in describing some lines of three or four centimetres in length, but, if necessary, increasing the power of the proceeding. We do not hesitate in proportion to the resistance experienced to press strongly, and with a broad surface. I have seen very often a deep cauterization obtain a result which had escaped hitherto, in spite of the reiterated but weaker application.

In a general manner the cauterizations must be multiplied rather than insisting too strongly upon each of them, but we must expect in serious cases to make many and strong cauterizations before obtaining the first manifestation.

When the person asphyxiated has given some signs of sensibility, his safety depends almost always upon the degree of perseverance that is used in the treatment. We must recollect that the morbid state, whatever it may be, has taken in the economy a right of fixed residence which it does never yield immediately, and which it is always ready to seize upon again, it can only be vanquished by one of those struggles which draw their strength more from the obstinacy of the treatment than from its rigor; here a long and active patience prevails over an impetuous, and for this reason temporary energy. Thus, far from stopping after the first signs of sensibility, and whatever may be the cries of anguish, we must persist a long time irritating the patient by burns, and when the chest acts with amplitude they must be extended to all the parts of the body. Once assured of having awakened the sensibility of the limbs, we must have recourse to flagellation—it is of all the excitable means the most preferable, its power can be increased instantly or diminished at will, it leaves only transitory traces and does not cause any injury to the organism. Lastly, far from losing its energy by employment, it acquires more at every instant, for the blows striking the parts already bruised are still more painful. Some leather thongs, a cat-o'-nine-tails, cords, a handful of flexible birches, or fresh nettles are perfectly sufficient, all the surface of the body is stricken with repeated blows, and with the greatest possible strength, remembering that the more we provoke efforts and agitation so much the more assured the return to life. Knowing, lastly, how much it would be dangerous to be stopped by the most evident signs of recovery, we must, during the first hours oppose all tendency to sleep, for to let the patient indulge in this re-

pose would be exposing one's self perhaps to see him die suddenly.

These experiments, had they even no other utility, prove that the place of election, for which we are not accustomed to account, modifies singularly the mode of action of the caustics, even when they are not destined to guard against local lesion, and they open, consequently, a new way of investigation to therapeutic science.

Encouraged by this result of cauterizations, I asked myself if it would not be possible to turn to account the cauterization of the thorax, or rather this treatment of asphyxia, to some other cases of accidental death. The following experiments will answer better than all the assertions.

Case I.—A young dog was hung by the neck in a fixed knot passing behind the jaws and occiput, the cord turned upon itself. It remained a quarter of an hour in complete tranquility, which I confess I could not account for, particularly in recollecting the rapidity with which the symptoms of strangulation appear in such a case, the heart having suffered only a slight acceleration, it was suddenly convulsively agitated, it writhed every way, the inferior extremities approached the chest, it would take the cord and bite it with rage, the jaws gnashed each other, its mouth opened unusually wide, its tongue lolled out, the eyes projected, the conjunctiva, the buccal mucous membrane, and the tongue at the base above all had taken a violet tinge ; it made water twice very abundantly, the throbbings of the heart were so much disordered that it was impossible to follow them.

This crisis, after having lasted two minutes, suddenly ceased, the jaws moved only slightly, the throbbings became more and more distinct, at the nineteenth minute I counted only three or four for ten seconds ; the animal was set free, and placed upon my table ; it gave no signs of life ; the pulsations, imperceptable to the hand, were with difficulty perceived with the stethoscope ; the insensibility complete, the red hot iron was carried with impunity over all the body ; it was as near death as possible. I then applied the caustic under the armpits and upon the ribs. It recovered in a few minutes. This animal that I hung several times remained always from ten to twelve minutes without appearing much inconvenienced, I have afterwards placed it in a slip knot, it resisted much longer than most other animals.

Case II.—A moderate sized cat was tied by the paws, and after having opened its trachea, I fixed within the mouth an india-rubber tube. I could at will diminish or interrupt the column of air. The animal could support long enough a low and gradual diminution,

but when the cylinder was reduced to about half its surface, accidents supervened which aggravated rapidly; painful and precipitate respiration, tumultuous and short palpitations, agitations, etc.; if, on the contrary, the air was suddenly and wholly intercepted, the state of the heart and lungs remained the same during three or four seconds, then the palpitations became suddenly tumultuous, the respiratory noise ceased, and an immediate and dull sound alone was heard; then the animal became violently agitated, it writhed convulsively, beat the table with its body, the mouth, nostrils, and eyes, were excessively opened, it bit with rage every thing within its reach, made water, and at last, after eight or ten seconds of this terrible crisis, fell down insensible. In this state, the hot iron applied to the limbs repeatedly, was without result: on the contrary, it had scarcely been applied two or three times upon the side of the chest before the animal began to breathe, and soon recovered. I repeated this experiment two or three times and always with the same results.

But in neither of the above experiments have I been able to prove the powerful efficacy of cauterization so well as in the following.

A very large bull-dog was bound, entirely from the collar-bone to the pelvis, tightly between two strong planks, two ropes placed at the height of the chest and belly, and provided with a tourniquet, allowed the constriction to be carried to the highest possible degree. The animal struggled at first with the most violent energy, it threw itself on me, bounded into the air, threw itself against the wall, and emitted, notwithstanding the muzzle, a loud growl, but soon after became calm, and presented symptoms analogous to those of asphyxia by charcoal, only the chest being maintained forcibly immovable, the entire respiratory movements were in some sort longitudinal. The clavicles rise very high towards the throat, the abdominal viscera seem to draw back the pelvis, at times the animal is laying upon the side or on the belly, and struggles hard to breathe, sometimes rises suddenly, stands erect against the wall, jumps with rage, writhes convulsively, shakes its jaws, an abundant foam mixed with blood runs from the mouth, and at last falls to rise no more; the movements of the chest are at first panting and precipitate, the consequence of this last ceases, slacken almost suddenly, and are soon scarcely perceivable.

After four minutes of this state the animal is in a profound stupor, the deepest cauterizations upon the legs and upon the chest even produce no result. When I deliver him the dog remains inanimate, extended in a complete state of relaxation, the jaws half opened, the tongue hanging upon the ground, the eyes wide open, a slight move-

ment in the chest alone indicates a shadow of existence. In vain I shake him—he remains quite insensible. Then I begin to cauterize the legs, thighs, under the toes, the sensibility is absolutely null, the hot iron is repeatedly applied, I leave it on the same place for two or three seconds, it does not stir. I apply it then to the chest at first, it produces some vague contractions, they are accelerated in proportion as I persist. The ribs are displaced, the thoracic parietes move, and respiration emerges slowly and by degrees, from the prostration into which it had fallen ; soon the head rises, the eyes are fixed upon me. I apply the hot iron upon the chest, the respiration is accelerated, it sees me and still remains perfectly tranquil ; then at each cauterization it groans and barks without seeking to escape ; he feels the pain but has no conscience of it ; at last the sensation is manifestly revived ; he makes some efforts to escape ; four minutes after I could not touch him however slightly with the iron on the paws or thighs without his howling violently, finally he recovered so well that the next night he broke his cord and escaped through a window.

In this experiment, which presented great difficulties, because the animal I had purposely chosen was among the most robust, opposed me strongly, I sought to obtain a state as near as possible similar to that of individuals smothered under a fall of earth or in a crowd.

The results I have obtained from cauterizations indicate enough the advantage to be drawn from them, and how much preferable they are to all the ordinary means employed effectively. At the Beaujon Hospital, in 1844, all the individuals who were crushed in the Champs Elisée, at the July fête, were pale, inanimate, plunged in the most profound insensibility, when brought to the hospital ; some showed convulsive symptoms ; in fresh cases the ordinary revulsives could not be of much use. Profuse bleedings of the arms and jugular veins were made—it was adding another cause of insensibility and hypostheny to that already existing, and almost all those seriously attacked, on their entry, died ; in similar cases, in consequence of the imminent danger, instead of losing time in employing vain remedies, it would be assuredly more rational to have recourse immediately to a treatment which, acting in an inverse manner to the cause of the malady, tends at first to reëstablish the functions before abolished.

A Doctor's Life. By an M. D., of Alna, Mi.

The following are some of the sweets of a Doctor's life. If he visits a few of his customers when they are well, it is to get his dinner; if he don't do so, it is because he cares more about the fleece than the flock. If he goes to church regularly, it is because he has nothing else to do; if he don't go, it is because he has no respect for the Sabbath or religion. If he speaks to a poor person, he keeps bad company; if he passes them by, he is better than other folks. If he has a good carriage, he is extravagant; if he uses a poor one on the score of economy, he is deficient in necessary pride. If he makes parties, it is to soft-soap the people to get their money; if he don't make them, he is afraid of a *cent!* If his horse is fat, it is because he has nothing to do; if he is lean, it is because he isn't taken care of. If he drives fast, it is to make people think somebody is very sick; if he drives slow, he has no interest in the welfare of his patients. If he dresses neat, he is proud; if he does not, he is wanting in self-respect. If he works on the land, he is fit for nothing but a farmer; if he don't work, it is because he is too lazy to be anything. If he talks much, "we don't want a Doctor to tell everything he knows;" if he don't talk. "*we like to see a Doctor social.*" If he says anything about politics, he had better let it alone; if he don't say anything about it, "we like to see a man show his colors." If he visits his patients every day, it is to run up a bill; if he don't, it is unjustifiable negligence. If he says anything about religion, he is a hypocrite; if he don't, he is an infidel. If he uses any of the popular remedies of the day, it is to cater to the whims and prejudices of the people to fill his pockets; if he don't use them it is from professional selfishness. If he is in the habit of having counsel often, it is because he knows nothing; if he objects to having it on the ground that he understands his own business, he is afraid of exposing his ignorance to his superiors. Is he gets pay for one-half his services, he has the reputation of being a *great manager.* Who wouldn't be an M. D.?

—*Nashville Journal of Medicine.*

PART VI.—EDITORIAL AND MISCELLANEOUS.

ARE OUR PUBLIC SCHOOLS INJURING THE *Bodies* OF OUR CHILDREN.—There is not a more important interest in the State than the Common School. Occupying the exclusive atttention of those who are to be the men and women of the next generation, for many hours of each day, its influence upon society can scarcely be overrated, and any error of physical training that by implication or by constitution it circulates becomes a serious wrong.

We have often queried whether there were not something decidedly wrong in the amount of time that the Common School demands of our children for study, and in the still greater amount that it spoils for recreation.

Our city schools require—and it amounts to about the same thing throughout the State—that the scholar shall be on hand from 9 o'clock to 12, and from 12½ to 3. Now 5½ hours would not be too much for any healthful child, if with the ringing of the dismissal bell there came a season of relaxation until nine of the next day. But when we meet our boy of ten years old returning from school, we find him always loaded down with books—geography, astronomy, physiology, and half a score of the sort beside—in several of which he assures us that he must get a lesson before morning. And upon further inquiry, we find that except exercises in arithmetic, reading, spelling, and writing, all his studying is to be done out of school hours! Of course, if he is bright, he soon learns how to make short work of his lessons, and by hurried or stolen reviews in school to "stuff" for recitation. But if he is dull, he has a harder lot. Coming home from school he is jaded and weary, He loathes the sight of a book. He longs to put his old "trowsers" on and kneel in the gutter or on the crossing to have one good game of marbles, or he agonizes for a game at ball, or "tag." He wants to expand his lungs and stretch his legs, and shake himself unhampered by a nice coat and out of the sight of grumbling teachers or guardians.

The prudent parent may consent to this in the summer time, but in winter there is no larger margin for play between the last hour of school and the first of night than a supper of proper length should entirely occupy, and none like to have their children out rioting after dark. Then, with the coming dark, the lad must sit down to his books. Under the most favorable circumstances he shares a light with the other members of the family, and while they talk of new

dresses and gossip of the day's affairs, he must keep his attention on problems that he abominates, or strive perpetually to commit to memory dates, names, figures, in which he can have no mortal interest. He is three times as long about it as if he had learned the same lesson in school; has acquired a habit of studying lazily, or rather has fallen into a habit of "mocking" over books and calling it study, besides finding his temper soured, and his spirits broken by the constant repetition of rebukes that really kind parents and sisters inflict upon him for listening to their conversation rather than attending to his business. But with the end of his labors it is bed-time, and with the end of breakfast it is school-time again. So whatever of recreation, whatever of physical training, whatever of development of muscle or exercise of body he gets, is stolen during the week or lumped together upon Saturday, when there is no school.

Our Board of Education and excellent corps of teachers could scarcely adopt a more ingenious device to secure a generation of puny people. They inject great quantities of elementary knowledge into the mind, and surfeit it where they should feed it with the greatest care. The body is ignored—its organs recognized only as things to be mortified. They struggle vigorously to crowd boys into the Free Academy, but take very feeble measures to prepare them to face the world and take part in its stern conflicts. Our own impression is—perhaps it may be a crude and undigested one—that the five and a half or six hours a day are an ample time to detain young children upon any intellectual exercise that is not positively alluring to them. We are not alarmed lest our children should *study* too much—they and nature conspire too prevent any such evil. But nature and the child together are incompetent to prevent the wrong that our system imposes in abbreviating the hours of physical exercise.

We are aware that some of the order and fine show of the school-room must be sacrificed if this doctrine is adopted. But, we think, neither the health of the scholar nor the convenience of families can afford to construe our school-rooms into mere recitation-rooms, or halls in which to parade the military precision of classes. Let the school hours be divided between recitation and study, and the scholar will have time enough for necessary exercise. The body will be encouraged to keep pace with the growing intellect. The winter evenings will come to be envied seasons of rest, of and for pleasant reading. What is now a drudgery and a bore to so many—the Common School—would become a pleasure, and of course a most certain profit.

We observe that the Boston Friends of Education have taken the very ground we urge, and discourage strongly the practice of giving the Public School children tasks to be overcome out of school. They may have gone too far, but the importance of the subject warrants our careful investigation of the matter. All such reforms, the public look to physicians to initiate. If they sound the alarm, and unite to protest against any patent evil of the sort, there is no question that the authorities will soon interfere to protect the suffering of the children, and save the next generation from its threatened impotence.

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A Glorious Chance.—A correspondent of one of our exchanges, in speaking of the new building erected by the Crosby Street Medical School, says :—"The able and enlightened professorial corps of this institution must fully appreciate this fact," (the greater need of educational than architectural reforms) "and could they shake off their timidity, might seize the golden opportunity of immortalizing themselves by establishing a school which would rival those of the old world."

The architectural reforms about the new building, to our thinking, consist chiefly, if not entirely, in making stores in the basement, convenient enough for assisting in paying rent, but which cramp the other and more important parts of the building. We particularly desire that, when our friend, Prof. Gilman, shakes himself, we may be there to see.

To All Whom it May Concern—How They do it in Virginia.—The November Stethoscope thus discourses editorially, and elegantly: "When a well-educated physician, not content with the honors and emoluments of legitimate practice, but under the pretext of being a specialist, resorts to the tricks of the mountebank, or *in any other manner soils his garments with quackery, for the love of lucre*, such an one quickly finds his level in our latitude. His depredations are confined to the most vicious, thriftless classes, and don't pay. Here in slave-holding old Virginia, intelligent gentlemen protect the laboring classes from such vampires. We have no cod-fish aristocracy or

wash-tub gentility to give tone to our society or currency to *scientific discoveries*." (We have corrected a typographical error, but the italics are in the original.)

A quotation concerning the Hunters of this city is the occasion of these remarks. As the relations of a physician who falls into quackery are the same to the profession here and almost everywhere else, there seems comparatively little occasion for such an especial display of the fact in the "old Dominion." But we desire to congratulate the "intelligent gentlemen" of Virginia on their defence of the laboring classes from such vampires, and to suggest that they adopt some means for defending each other from the same; for, if report be true, glorious old Virginia has quite its share of intelligent representatives among the patients of the Hunters and Fitches.

New Medical Journals.—The Atlanta Medical and Surgical Journal is received. Three numbers have been issued, well printed on good paper, with good matter. It is edited by Profs. Logan and Westmoreland, of the new Medical Institution at Atlanta, Georgia. They have our best wishes for success in their arduous undertaking.

The Medical Counsellor, of Columbus, Ohio, has not, we believe, been formally mentioned by us, though we have frequently quoted from it. When it first appeared, we remarked to a friend, that the publisher gave too much for its price, which, it seems, he has found out. We rejoice to say that the Counsellor, before the end of its first year, has acquired a good standing by the mode in which it is conducted by its editor, Dr. R. Hills, and comes every week with something rich, rare, or racy.

The New York Medical Times.—Last month we wrote a paragraph congratulatory on the change in the editorial corps of this journal, together with a short sketch, biographical and personal, of Dr. J. G. Adams. Learning that he was again attacked by one of his "depressed turns," occasioned by or accompanying the mental malady under which he labors, we at once suppressed the sketch, it not being entirely complimentary. Now we have to write our con-

gratulatory on the occasion of Dr. A.'s retirement, and the occupation of the chair editorial by Dr. Bulkley. Although we have been pained by the course pursued by Dr. Adams, we have attributed its erratic peculiarities to the mental malady rather than to the individual. Under Dr. Bulkley the journal will, we doubt not, be free from its faults, and we certainly are glad to mention the return of this amiable gentleman and friend to editorial duties.

Appointment.—The Chair of Operative Surgery in the University of Vermont has been offered to and accepted by Dr. D. S. Conant, of this city, Demonstrator of Anatomy in the New York Medical College. Dr. C. will bring to the Chair scientific ardor, ability, and experience, which abundantly justify the selection from ever so large a number of applicants.

Anonymous Letters.—We have been favored with a few of these interesting documents lately, and beg the writer to refrain from sending any more. Such as these have been, tend to lessen our respect for human kind, while they are not done with sufficient intelligence to conceal their author.

ITEMS.

The Treasurer of the Massachusetts Medical Society announced, at the last meeting, that he had received the sum of *one hundred dollars* from a member of the Society, for a prize for 1857, on conditions similar to those of 1856—on the following theme:—"We would regard every approach towards the rational and successful prevention and management of disease, without the necessity of drugs, to be an advance in favor of humanity and scientific medicine."

Insanity Treated by Quinine.—M. H. Legrand du Saulle communicates a case of insanity of a double form, treated successfully by sulphate of quinine. The patient, a female of 34 years, and the mother of a family, had been subject to periodical attacks of religious melancholy, lasting for 6 days, and then succeeded by furious mania,

lasting about the same length of time, and which, upon passing off, gave place to an interval of 11 days, during which the health, intellectually and bodily, seemed complete. The sulphate of quinine was prescribed, and continued without interruption from March 3d until April 10th, gradually increasing the dose from 4 grains to 2 scruples. At the usual period for the accession of the melancholy, only a slight dullness appeared, and for three years the affection has not returned. —*Annales Medico Psychologiques.*

Antimoniate of Quinia in Intermittents.—Dr. La. Camera, of Naples, in treating a solution of sulphate of quinia by a solution of antimoniate of potassa, has obtained a white product crystalized in needles, bitter to the taste, and soluble in hot water and in alcohol and ether. This antimoniate of quinia has given excellent results in periodical diseases, both simple and complicated with rheumatism, in sub-continued fevers of Torti, and in pernicious fevers. The dose is 0.4 grm. to 0.6 grm. during the apyrexia, and it is rarely necessary to be administered a second time.—*Jour. of Pharm.*

Anecdote.—Sir Richard Jebb used to tell a story of himself which made even avarice comical. Attending a nobleman whom he thought ought to pay him five guineas at each visit, he received only three. Suspecting some trick on the part of the steward, from whom he received it, he, at the next visit, contrived to drop the three guineas. They were picked up and again deposited in his hand; but he still continued to look on the carpet. His lordship asked if all the guineas were found. "There must be two still on the floor," replied Sir Richard, "for I have but three." The hint was taken, and his trick was successful.